

# CASE STUDIES OF THREE SCHOOLS EXEMPLIFYING WELLNESS AND LIFETIME FITNESS MODELS

Abstract of a Dissertation by

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Problem. Despite awareness and advocacy for benefits of wellness practices, sedentary lifestyles and worsening nutritional practices are contributing to early signs of heart disease, diabetes, and an epidemic of obesity in school-aged children. Meanwhile, physical education, historically one of the most readily available outlets for physical activity, has been marginalized in the wake of legislation mandating accountability for higher achievement in core academic areas. There is a dearth of information in the literature about innovative alternatives to the traditional physical education model.

Procedures. This qualitative case study examines purposefully chosen, exemplary school wellness models in an elementary, middle, and high school setting. The central research question explored which practices were being implemented in exemplary settings to meet the wellness needs of students and staff. The initial phase of research was guided by subquestions focused on environment, program origins, best practices, and evidence of success, while analytical and interpretive questions were applied to determine common themes and challenges faced by each site. Instrumentation for gathering data included a total of 32 on-site interviews with school administrators, teachers, and community members, as well as direct program observation and analysis of over 50 documents pertaining to the three sites. Data from multiple sources were taped, transcribed, coded, and analyzed for patterns and themes.

Findings. Ten common themes emerged. They included: markedly similar environments, emphasis on choice-based, individualized lifetime fitness activities, and a dedication to development of the whole individual. Additionally, program growth was accelerated by extensive and creative use of school and community partnerships, as well as prioritization of instructional technology and a culture of accountability driven by research and data. These practices are linked to evidence of success at each site, including improved student health indicators and fewer incidents of truancy and other negative behaviors. Finally, schools involved in the study have shown improved academic achievement, which is consistent with emerging research showing that fitness enhances learning capacity. However, the sites share concerns about sustainability related to continuity of leadership, resource costs, systemic programming, and longitudinal evidence of success.

Conclusions. Responsibility for the ongoing decline in the health of our young people must be shared by education, government, healthcare, and business institutions, as well as parents and families. By synthesizing the collective best practices of the three cases, a comprehensive model of sustainable wellness was developed to inform practice, ensure accountability, and provide a template for further research in this area.

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WELLNESS AND LIFETIME FITNESS MODELS

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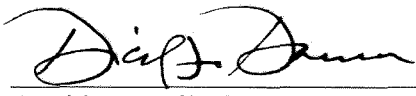
CASE STUDIES OF THREE SCHOOLS EXEMPLIFYING  
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October 2008

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## Chapter 1

### INTRODUCTION

*The strength of our democracy is no greater than the collective well-being of our people. The vigor of our country is no stronger than the vitality and will of our countrymen. The need for increased attention to the fitness of our youth is clearly established: [Most] have not developed strong, agile bodies, and the softening process of our civilization continues to carry on its persistent erosion. It is of great importance, then, that we take immediate steps to ensure that every child be given the opportunity to become physically fit; fit to learn, to grow in grace and stature, to fully live. (President John F. Kennedy, 1961)*

#### *Introduction to the Problem Area*

Federal legislation, the Child Nutrition and WIC Reauthorization Act (Section 204 of P.L. 108-265), was passed in 2004 mandating wellness policies in all schools by the 2006- 2007 academic year, in response to such public health concerns as a growing epidemic in childhood obesity, increasingly sedentary lifestyles, worsening nutritional practices, and the troubling evidence of early signs of heart disease, adult-onset diabetes, and other preventable diseases in elementary school aged children (National Alliance for Nutrition and Activity, 2007).

This legislation, which directed schools to set goals for physical activity as well as nutrition, replaced previous federal nutritional programs in order to more directly influence these predictors of childhood health threats, in recognition of the potential for schools to play a larger role in addressing the issues. The law also encouraged a collaborative model, specifying the involvement of parents, students, boards of education,



school personnel, and the public, reflecting the systems thinking of Senge et al. (2000), who have advocated that community-based approaches are more likely to facilitate development of desired climates, such as those conducive to healthy lifestyles.

Prior to the passage of Section 204, however, requirements of the No Child Left Behind Act (P.L. 107-110, 2001) that schools demonstrate adequate yearly progress in the curricular areas of reading and mathematics had already begun to accelerate the trend of pushing physical education and other school-based opportunities for physical activity to the margins. According to a report by McMurrer (2008) for the Center on Education Policy, physical education and other subjects have had significant cuts in time and resources in order to emphasize core subjects and the remediation of students who were non-proficient in these areas. This was significant, given that fewer children than ever were engaging in physical activity outside of school and that their activity levels were already below those thought sufficient to promote even basic health benefits (Ntoumanis, 2005).

These poor health practices rooted in childhood and young adulthood will have an increasingly negative impact on an already aging population whose lives are being extended by advances in medicine. Estimates are that the segment of the population over the age of 65 will double prior to midcentury, while the 85-and-older age group, made up of those most likely to need extensive health care, will more than triple (Weiner & Tilly, 2002). Meanwhile, according to an issue brief by the Kaiser Family Foundation (2008), Americans, including more than a third of the poor, are increasingly being denied access to even the most basic health care insurance.

This perfect storm of conditions threatens not only to worsen the national

epidemic of healthcare problems, but could actually come to be seen as the most pressing area of our collective concern in coming years. The Congressional Budget Office (2007) predicts that health care costs, which currently account for approximately fifteen percent of our Gross Domestic Product, will increase to over half of the GDP later this century. It is within these difficult and conflicting contexts that I have endeavored to examine the prospect for a broader transition from traditional school physical education, nutrition, and health programs to more holistic school and community wellness programs. This work has been fueled by a long held professional conviction that the educational initiatives designed to enhance academic achievement and those that promote the physical and emotional health of the individual need not be mutually detrimental, nor mutually exclusive. With this perspective in mind, I have explored historical documents and current literature pertaining to wellness and physical activity, as well as emergent research connecting them to brain function and learning, as a backdrop to the study of exemplary school sites on the cusp of a movement attempting to embrace both.

#### *Relationship to Topic*

My personal relationship and qualifications regarding this area of inquiry, beyond that of a citizen with serious concerns about the potential national health crisis to come, are as follows: First, my most recent professional role was as a district administrator, responsible in part for evaluating physical education standards, benchmarks, and grade-level expectations. Given my awareness of the discipline's increasing marginalization, post-No Child Left Behind (NCLB, 2001), a decline in its participatory requirements, and my familiarity with public health trends, I began to question the effectiveness of current school physical education and health practices and to desire a more complete historical

perspective of their evolution and decline.

Second, I had the opportunity to synthesize ten years of observation, learning, and practice as a K-12 physical educator and counselor to create a successful comprehensive wellness program from its foundation at an urban, parochial high school in Milwaukee, Wisconsin. This initiative, which employed an individualized physical activity and health plan for each student, instilled in me an appreciation for alternative health and wellness delivery methods and an abiding interest in other such models. Finally, my experiences as a school principal and counselor, as well as a doctoral student at Drake University, have raised the question of whether school wellness needs might be better addressed holistically, collaboratively, and from a broader systems perspective.

I have been conscious of the proximity that these roles place me in with respect to the research topic, keeping in mind Bogdan and Biklen's (2007) admonition that it is impossible to completely separate one's research from past experiences, beliefs, and values. At the same time, I have attempted to remain "open to being shaped by the research experience and to having [my] thinking be informed by the data" (p. 38).

### *Rationale*

According to Creswell (2007, p. 102), the strongest rationale for undertaking a study comes from the literature: "a need exists to add to or fill a gap...or to provide a voice for individuals not heard in the literature." As Barritt (1986, p. 20) suggests, the rationale "is the heightening of awareness for experience which has been forgotten and overlooked. [Through this] awareness...it is hoped research can lead to better understanding and improvements in practice."

Based on a review of the literature (see Chapter 2), it is evident that, despite the

clear and multiple benefits of physical activity and wellness-oriented lifestyles, as well as the plethora of federal, state, and local policies to promote such practices, schools and communities are generally not preparing young people to be lifelong learners and participants in active, healthy lifestyles. This can be measured by trends in obesity, diabetes, and coronary heart disease rates and the increasing prevalence of mental health issues related to stress, depression, anxiety, and other maladies.

Given the abundance of statistical data from scholars, physicians, and public health organizations on the benefits of wellness and the concurrent decline in its application, it is apparent that purely quantitative means have proven themselves insufficient to a solution. As Creswell (2007, p. 40) notes, “we use qualitative research because quantitative measures and statistical analysis simply do not *fit* the problem.” This is, of course, not to imply that the medical, scientific, and statistical studies, which overwhelmingly comprise the evidence of our nation’s health demise, are without merit. Quite the contrary; they form a solid, credible foundation upon which the argument for a wellness movement is built. Nevertheless, providing an illustrative narrative can have an additive effect, by allowing us to more completely envision a new model. Indeed, abstract analysis can be made more comprehensible when presented in the form of a well-chosen story (Denning, 2005). It seemed reasonable, then, to document that which is most lacking: real world examples, or cases, in which positive wellness practices were being successfully applied.

#### *Purpose Statement*

The purpose of this multiple case study, then, was to describe the environment, culture, practices, and impact of schools (and their communities) that exemplify

comprehensive wellness and lifetime fitness models. By identifying these prototypes in the realm of school wellness, studying them in depth, and relating their stories and accomplishments, I hoped to advance best practices, inform school leadership decisions, and impact public policy toward the end of helping to reverse the negative trend in the health of our young people.

### *Definitions*

While there are a number of interpretations for the term *wellness*, the National Wellness Institute at the University of Wisconsin-Stevens Point states that there is some consensus that wellness is an “active and affirming process through which people become aware of, and make choices toward, a more successful existence.” In addition, it is “multidimensional and holistic, encompassing lifestyle, mental and spiritual wellbeing, and the environment” (Retrieved June, 12, 2008, from <http://www.nationalwellness.org>).

School wellness policies and practices, as represented by P.L. 108-265 (2004), however, provide a more limited definition: “A systemic commitment to providing school environments that promote and protect children's health, well-being, and ability to learn by supporting good nutrition, effective health education, and multiple opportunities for physical activity.”

The formation of school health councils is also recommended, as resources to develop, implement, and review school nutrition and physical activity policies. These councils should consist of a group of individuals who represent the school and community, including parents, students, school food authority representatives, board members, school administrators, teachers, health professionals, and members of the public.

Finally, the following are terms that will be used frequently throughout the study, as defined by the Centers for Disease Control and Prevention (CDC, 1997).

*Physical activity:* Movement produced by the muscles, resulting in the expenditure of energy. The CDC recommends at least 60 minutes a day of physical activity for children, with at least 20 of them supervised.

*Exercise:* Physical activity done for the purpose of improving or maintaining physical fitness.

*Physical fitness:* A set of attributes that are health-related (e.g. aerobic endurance, muscular strength, and body composition) or skill-related (e.g. balance, agility, speed, and coordination).

### *Research Questions*

The questions guiding qualitative research can be “exploratory, descriptive, and emancipatory,” which are prone to social action derived from the phenomenon, as well as “open-ended and evolving” (Creswell, 2007, p. 107). Seeking to evoke these concepts, the central question of this study explored practices that were being implemented in exemplary school settings to meet the wellness needs of students and staff.

The subquestions guiding this study were broken down into two categories, the first being procedural, explanatory questions asked of the participants, which helped to identify causal and intervening conditions, as well as strategies and outcomes (Creswell, 2007). These subquestions include:

1. How would you describe the environments of the schools and their communities?

2. What caused these schools with exemplary programs to make wellness a priority and who was instrumental in this response?
3. What practices contribute to these sites being more fit or well than others?
4. What evidence exists supporting the correlation between wellness practices and positive outcomes?

The second set was designed to identify patterns that could be used in analysis and interpretation of the initial data.

1. What themes emerged in gathering data from all the cases and how might these themes be interpreted within the context of the literature?
2. What do schools with effective wellness or lifetime fitness programs have in common and what constructs were unique to each case?
3. Given that so much compelling evidence exists in their favor, what are the obstacles to such models being more systematically or universally implemented?

The answers to these questions could be seen as having emancipatory potential for practitioners looking to benefit from the best practices demonstrated at each of the case sites and will be used as the foundation for recommendations for further practice and study as described in Chapter 5.

## Chapter 2

### LITERATURE REVIEW

#### *Introduction*

With regard to the timing of when a qualitative researcher should initiate a review of the literature (Bogan & Biklen, 2007), it seemed important in this case to begin early, both to gain an accurate historical perspective and to inform the specific type of study that was most needed. However, when doing so, the same authors caution against the prospect of becoming so enamored of certain “concepts, ideas, or models [that] they blind you to other ways of looking at your data” (p. 169). Care has therefore been taken in conducting this review to examine and analyze a broad spectrum of sources pertaining to the origins, practices, trends, and changes in the physical education and wellness of our nation's youth. An attempt was made to place the data in a chronological sequence (Creswell, 2007), look for “epiphanies or turning points” (p. 57), and set the findings within their proper historical context, much as an anthropologist would do with any past phenomena affecting a current population. Ultimately, it was hoped that the review of relevant literature would be employed in the overall study goal of assisting other motivated school personnel to “overcome limitations that have been placed upon them” (Creswell, 2007).

The documents studied included, but were not limited to, elementary (e.g., Graham, 1992; Pangrazi & Dauer, 1995; Pettifor, 1999) and secondary physical education texts (Wuest & Lombardo, 1994), as well as archived *Journals of Physical Education, Recreation, and Dance (JOPERD)*. Other sources included published histories of physical education, websites of professional organizations, such as the American



Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD) and the non-profit organization PE4life, as well as links to related agencies. In addition, the voluminous body of health research, much of it undertaken by government agencies such as the Centers for Disease Control and Prevention and the United States Department of Health and Human Services, was examined to establish public health and physical activity trends and recommendations. Finally, information on wellness and exercise-related brain research was reviewed to provide the most recent and holistic accounts of the topic.

While reviewing the data from these sources, I attempted to organize them, searching for patterns and categorizing them into manageable units, using the constant comparative method until a point of saturation was reached. As I worked, I informally developed procedural and analytic questions that would help to direct my own subsequent study (Bogdan & Biklen, 2007).

In the interest of full disclosure, I must admit that in this initial effort at a large-scale document analysis and literature review, I often failed to adequately heed Bogdan and Biklen's (2007) warning to find ways to narrow the scope of the search. However, daunting as it was to sort through such a wide range of conflicting sources, a relatively distinct pattern gradually coalesced to the point in which a number of discrete, yet related, strands appeared, supported and reinforced to the point of saturation. In the next section, I will attempt to describe and interpret these strands.

### *Overview*

Upon examining the scholarly literature and other documents, a clear picture began to emerge, even from the fog of conflicting accounts and statistics, lack of

uniformity between state and local school policies and practices, and politically charged debate. Nearly all information, as the process evolved, appeared to fall within six broad, yet fairly well-defined, topical areas. These included: professional characterizations of the nature of physical education and activity, their historical relevance in relation to the broader realms of education and society, the clear and multiple health benefits of regular physical activity, good nutrition, and other informed health practices, the related goal of government health agencies to increase physical activity among American youth and adults, and the simultaneous, general, and rather precipitous decline in their healthy behaviors. The last topical area involves the federal mandates, state and local school policies and practices, and societal preferences, which over the past two decades have significantly impacted the aforementioned health behaviors, often in a decidedly negative manner. When examined collectively and chronologically, these strands intertwine to form a persuasive conclusion about theoretical directions for positive change.

#### *Characterization of Physical Education and Sport*

In order to proceed in a systematic and comprehensible fashion, a common understanding of the phenomenon should first be arrived at. Standards established by the National Association of Sport and Physical Education (2006) identify physical education as a discipline with the goal of developing physically educated individuals who have the knowledge, skills, and confidence to take part in a lifetime of health inducing physical activity. A physically educated person:

Standard 1: Demonstrates competency in motor skills and the movement patterns necessary to perform a variety of physical activities.

Standard 2: Demonstrates an understanding of movement concepts, principles, strategies,

and tactics as they apply to the learning and performance of physical activities.

Standard 3: Participates regularly in physical activity.

Standard 4: Achieves and maintains a health-enhancing level of physical fitness.

Standard 5: Exhibits responsible personal and social behavior that respects self and others in physical activity settings.

Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

Sport, meanwhile, because of its prominent place in traditional physical education curricula and in society, has become almost synonymous with physical education. This may be, in part, because of the dual role held by many physical educators as athletic coaches. The formal definition of sport refers to “an athletic activity requiring skill or physical prowess and often of a competitive nature” (Webster’s, 1994, p. 1375). As we shall see in Chapter 4 of this study, a new paradigm of physical education is attempting to re-prioritize sport as one component of a more holistic concept, rather than as the primary conveyance of physical development.

### *Historical Context*

A surprising number of volumes have been written about the historical aspects of physical education (Rice, 1952; Van Dalen & Bennett, 1953; Hackensmith, 1966; Lee, 1983), but two of the most recent and comprehensive were by Zeigler (1988 & 2005). Virtually all of the historians give credit to the Greco-Roman philosophy of a sound body contributing to a sound mind and the German *gymnasia* movement of the 1800s as being significant early influences on physical education in America. However, it wasn't until the years after the Civil War, which clearly, and often heartbreakingly, illustrated the

consequences of a lack of good health practices, and coincided with a push for broader availability of free public schools, that the practice of organized physical education began to blossom. This period also marked the origin and popularization of many team sports, such as baseball, basketball, and American football (Zeigler, 2005). This development, which quickly overtook previous systems of individual exercise in the adoption of an “athletics for all” philosophy, would increasingly define American physical education and leisure pursuits throughout the 20th century (p. 41).

America's transition from an agrarian society (in which fitness was an inherent byproduct of hard physical labor) to an industrialized nation (with ever-increasing amounts of leisure time) greatly contributed to this explosion of participation in team sports, but by the late 20th century their almost exclusive representation in physical education classes, their inability, in many cases, to adequately contribute to personal fitness, and their increasing failure to engage large underserved populations was leading to a crisis of confidence in the profession (Lee, 1983; Zeigler, 2005).

Revelations by Kraus and Pruden (1953) that children in the United States were not as physically fit as their counterparts in other industrialized nations led to the development of the initial President's Council on Fitness and its resulting national tests for American schoolchildren. In spite of this early impetus for change, criticism of the profession continued to grow. In 1963, Conant declared himself far from impressed with the field of physical education, going so far as to encourage universities to do away with all graduate programs in the discipline. Lee (1983), Zeigler (1988 & 2005), and others within the field have mourned the missed opportunities “to become the profession of which we are capable [thereby depriving ourselves] of any accompanying social

recognition and support” (p. 167). Pointing to physical education’s place at the “bottom of the totem pole in educational circles,” Zeigler (2005, p. 170) even chides the field as a glorified trade with preparation that has become insufficient to the nation’s needs.

It should be noted that some progress has occurred in recent decades. For example, Title IX (1972) banned funding and programming discrimination against women in athletics and other areas, and the recent establishment of national standards has been a welcome development in most circles. Nevertheless, much evidence exists that practice has failed almost comprehensively to keep up with theory and knowledge.

### *Benefits of Physical Activity and Well Lifestyles*

The third issue (referred to in most resources reviewed in this study) related to wellness pertains to the significant, wide-ranging, and well-documented benefits of regular physical activity. Simply put, those who maintain a regimen of aerobic exercise, strength training, and flexibility can expect to enjoy, among other things, enhanced endurance, better self-esteem and confidence, greater bone density, more lean muscle mass, and more years of healthy life, while at the same time experiencing a decreased risk of cardiovascular disease, anxiety and depression, diabetes, obesity, and certain cancers (U.S. Department of Health and Human Services, 2000). Further, physical inactivity and poor dietary behaviors are exceeded only by smoking as preventable causes of death (Stone, McKenzie, Welk, & Booth, 1998; CDC, 2001).

With this in mind, then, it is not surprising that most of our established national health objectives are aimed in part at increasing physical activity. The Department of Health and Human Service’s *Healthy People 2010*, for example, has been a proponent of such initiatives, with extensive advocacy, networking and promotion. Other sources note

that schools are still seen as potentially key settings for increasing participation in physical activity (Cale & Harris, 2006; Burgeson et al., 2001). Relatively few studies have been done chronicling results of intensive school physical activity interventions; Stone et al. (1998) found only 14 worldwide that fit their rigorous quantitative and longitudinal criteria. However, of those reviewed, many documented significant increases in physical activity that remained after three years without further intervention, as well as “improvements in knowledge and attitude related to physical activity” (p. 307).

### *Emerging Brain Research*

Some of the most intriguing and groundbreaking research of the past two decades has emanated from the greatly enhanced ability of neuroscientists to examine the brain and its functions with the help of advanced scanning technologies. Goleman (1994 & 2006), Gardner (1993), and Levine (2002), among others, have interpreted many of these findings to provide suggestions for practical applications in the realms of education, mental health, and business leadership. A more recent development in this line of research has been the increased scrutiny of the link between exercise and various aspects of brain function; in other words, a digital age corroboration of the ancient Greek and Roman philosophy of *mens sana in corpore sano* (a healthy mind in a healthy body). The early indications from this growing body of work, which influenced me in pursuing this course of study, appear to show a relationship that is far more comprehensive and mutually beneficial than anyone (with the notable exception, perhaps, of the ancient Greeks and Romans) had foreseen. Clearly, these findings have implications for the theory and practice of both education and wellness. Table 1 (next page) provides an overview of some of the more recent studies and interpretations in the field.

Table 1  
*Movement, Exercise, and the Brain*

Author/Source	Findings
California Department of Education (2005)	Using results from the Physical Fitness Test and the California Standards Tests, a study of students statewide documented a “strong positive relationship between fitness and achievement.”
Ratey, J., and Hagerman, E. (2008)	<p>Studies using EEG to measure attention, memory, and processing speed showed more activity in fit kids’ brains: They were able to use resources more quickly and accurately than unfit peers (p. 25).</p> <p>Fit students are more prepared to learn, exhibiting heightened senses and improved mood and motivation (p. 35).</p> <p>Exercise generates BDNF (the “master molecule” of learning), establishing direct biological link between movement and the brain</p> <p>Cognitive flexibility and executive function improved after treadmill sessions and jogging programs (p. 54).</p> <p>Exercise led to 50% reductions in symptoms of anxiety (p. 101); is “as effective as medication” in countering depression (p. 122).</p> <p>Key quote: “Exercise acts as ‘Miracle-Gro’ throughout the brain.”</p>
Medina, J. (2008)	<p>Human beings are not built for sitting at a desk all day. “From an evolutionary perspective, our brains developed while working out, walking [up to] 12 miles a day: The brain still craves that” (p. 2).</p> <p>Children who jogged 2-3 times a week showed “significantly improved” cognitive performance. When exercise was halted, test scores dropped back to previous levels (p. 14-15).</p> <p>Physically fit children concentrate better, devote more cognitive resources to tasks, are “less likely to be disruptive,” and have “higher self-esteem, less depression and anxiety” (p. 18).</p> <p>When students were given opportunities for regular, supervised physical activity, their standardized test performance improved.</p> <p>Key quote: “Cutting off physical exercise—the very activity most likely to promote cognitive performance—to do better on a test score is like trying to gain weight by starving yourself” (p. 25).</p>

### *Negative Public Health Trends*

Despite our unprecedented wealth of knowledge about the benefits of physical activity, and the efforts of local, state, and federal entities attempting to stem the tide of worsening public health, virtually all relevant data indicated an alarming and precipitous decline in health indicators (CDC reports, 1999 & 2001, unless otherwise indicated):

1. Students attending physical education declined in the last decade to less than 25%, with only a third of *those* participating in sustained activity.
2. Only six percent of schools require regular physical education for all grades, with participation lessening significantly in each successive year.
3. Fewer than half of youth engage in even minimally recommended amounts of physical activity each week, in *or* out of school.
4. Meanwhile, the prevalence of overweight and obese youth has more than tripled since 1980, to nearly a third. In the next decade, this is projected to increase to 50%; the additional health care cost for each obese child will be more than \$200,000 by the time he or she retires (PE4life, 2007).
5. A third of children and half of black and Hispanic children, born after 2000 will be diagnosed with type II diabetes (considered an adult disease found in fewer than 1% of kids as recently as 20 years ago).
6. Children born today will have a shorter life expectancy than their parents for the first time in over 100 years (PE4life, 2007).
7. Ultimately, these trends are reflected in adulthood. Over 400,000 Americans die each year from complications brought on by lack of exercise and poor diet.



Meanwhile, school physical education programs are becoming increasingly marginalized, less relevant, and unprepared to produce the life-long learners, in a fitness sense, that many district mission statements now espouse. At this point, it will be instructive to examine some of the policies, practices, mandates, and trends contributing to the demise of traditional physical education programs.

One epiphany from the data that I collected was that many, if not most, of the downward trends in participation in physical education, fitness activities, and healthy lifestyles among school-aged children and adolescents were already entrenched *prior* to the introduction of the No Child Left Behind Act (2001) and other mandates holding schools and students accountable for demonstrating improvement in core academic achievement.

As mentioned previously, a disproportionate reliance on competitive team sports and games with a low participation and activity ratio has been one culprit. This is problematic, as Rosenshine and Furst (1971) found that a significant contributing factor in students' learning was their opportunity to participate, or time on task. Games such as kickball and softball that are regularly found in physical education curricula typically only involve a few students at a time while dozens of others essentially act as observers--hardly the aerobic activity level needed to address the epidemic of obesity. Another oft-cited criticism of physical education programs is that they engage and reward athletic children already skilled in the ubiquitous team sports and further alienate less-skilled, high-risk, and underserved populations (Laker, 2001). The role of a steady diet of competition cannot be overstated here, as Roberts (2001) found that few students viewed competitive aspects of physical education as important, while those high in task

orientation saw individual improvement, work ethic, and cooperation as critical principles. Thus, intractability reflected in long-held practices represents one of the greatest challenges facing the field of physical education: a willingness to “let go of obsolescence [and] apply new knowledge creatively in the face of a discouraging political environment” (Zeigler, 2005, p. 49).

Of course, blame for the phenomenon cannot be placed solely at the schoolhouse door. One cannot discount the “overwhelming influence a mandate or policy can have on a school-based activity” (Dwyer et al. 2005, p. 82), and the strictures of NCLB (2001) have certainly exacerbated an already dire circumstance with regard to student fitness. Perhaps even more significantly, according to the *Youth Risk Behavior Surveillance* (Grunbaum, Kann, & Kinchen, 2004), in our broader society virtual and/or passive means of entertainment have now surpassed physically active pursuits as our most common leisure time activities.

Regardless of the origins of this trend, the American College of Sports Medicine’s (2007) number one public health prediction was that schools are unlikely to increase the time and resources they devote to addressing childhood obesity and health issues, with private sector entities such as fitness centers and professional trainers expected to fill the gap. This prospect brings up troubling questions about future access to fitness instruction and availability of facilities for already underprivileged and underserved student populations and heightens the sense of a gathering storm over public health issues.

### *Conclusions and Summary*

Signs exist, however, that attitudes are beginning to change; there is an elevated sense of urgency that something of substance must be done to respond. In a recent review

of archived issues of the *Journal of Physical Education, Recreation, and Dance*, an interesting trend could be found: throughout the 1990s, articles dedicated to lifetime fitness activities and promotion appeared infrequently, as defined by appearing once every four issues. Instead, common topics included supervision, legal liability, skill building, and coaching issues. In the last eight years, though, articles highlighting childhood obesity, walking programs, and fitness assessment have gained significantly in their prevalence on the pages of the profession's most visible journal.

Further, an interesting theory has been posited that may inform underlying social causes of obesity and may even prove to have the potential for lessening its impact. In analyzing social networks among large numbers of participants in a longitudinal heart health study, Christakis and Fowler (2007) concluded that the tendency toward gaining weight and becoming obese actually appeared to spread through social connections. Beyond the importance of social structures among individuals, the reason for these clusters of obesity could not be conclusively ascertained in this study. However, the authors speculated that social interactions may change tolerance levels surrounding attitudes toward obesity or common behaviors related to eating and exercise. Regardless of the causation, the influence of socialization was deemed so crucial that it might also hold the potential to reverse the trend of obesity, given appropriate interventions. Indeed, the authors suggested that such social network-driven changes might be more cost-effective than previously thought, since "health improvements in one person might spread to others" (p. 375).

Nevertheless, all of this may be wishful thinking unless there is a fundamental and substantial shift in the paradigm of youth health and fitness services. For one thing, the

constraints of NCLB (2001), or successive legislation, on daily physical education are unlikely to change, and may in fact be exacerbated by increasing pressures on schools to gain or maintain compliance in core areas. For another, the harsh possibility must be examined that traditional school physical education programs in their current incarnations may not be worth saving. A strong argument can be made in looking at the body of research that the field as a whole has not been true to its core standards of preparing physically educated individuals and practitioners of sound health and fitness practices. Zeigler (2005) sums it up well: "The profession...has been proceeding amoeba-like for far too long; I say this considering the body of knowledge that has been amassed concerning the effects of regular, purposeful physical activity" (p. 89).

In this unwillingness, or inability, to change, physical education has failed to reflect current research and recommendations from the health sciences, avoided the use of best practice to engage a wider variety of learners, and been slow to embrace an accountability model. Ultimately, these decisions have signified a badly missed opportunity to take a leadership role in the fight to re-establish healthy communities. This failure has had, and will increasingly continue to have, a national impact on quality of life issues.

The gaps in the research that I will explore in this study, then, pertain to the absence of qualitative descriptions and analyses of established wellness initiatives among schools and districts. Specifically, I hope to bridge the gap in understanding about why so much credible knowledge about health and wellness is so seldom applied, by illuminating pockets of excellence and documenting their challenges and successes in building and maintaining wellness programming.

## Chapter 3

### METHODOLOGY

#### *Rationale*

Given the apparent disconnect between the broad body of work authoritatively detailing the comprehensive benefits of wellness lifestyles and the almost equally comprehensive lack of societal application of such lifestyles, there appeared to be a need to go beyond replication of such studies. Rather than simply joining in the growing chorus of alarm by generating yet more dire news, I was more interested in an exploration of informed, intentional applications of wellness principles. Success stories in this realm are rare and may have a great deal to tell us about the climate and circumstances necessary for transformation. Thus, a qualitative study of exemplary cases seemed warranted, with multiple sites offering the potential for better understanding of differing contexts and challenges. With this in mind, it may be useful at this point to review the questions guiding the research and data collection at each of the sites:

- A. Central question: “What practices are being implemented in exemplary school settings to meet the wellness needs of students and staff?”
- B. Procedural, explanatory subquestions:
  - 1. How would you describe the learning and physical environments of the schools?
  - 2. What caused these schools with exemplary programs to make wellness a priority and who was instrumental in this response?
  - 3. What practices contribute to these sites being more fit or well than others?
  - 4. What evidence exists supporting the correlation between wellness practices and positive outcomes?

C. Analytical and interpretive subquestions:

1. What themes emerged in gathering data from all the cases and how might these themes be interpreted within the context of the literature?
2. What do schools with effective wellness or lifetime fitness programs have in common and what constructs were unique to each case?
3. Given that so much compelling evidence exists in their favor, what are the obstacles to such models being more systematically or universally implemented?

These areas of inquiry reflect concepts put forth by such proponents of systems thinking as Wheatley (1994), who emphasized the importance of examining the quality of a system and how it differs from others. She suggests that focusing on quantitative measures alone leads to frustration over the endless stream of incomplete data we receive. Instead, what is most important to learn is “the shape of the *whole*, how it develops and changes and compares” (p. 129)

*Background*

The nature of this study originated from my own largely qualitative worldview and theoretical lens, which became increasingly evident to me throughout the progression of our doctoral program. While I suppose that I have always been vaguely aware of this perspective in my life, our readings and discussions provided a clearer delineation of its characteristics and applications. In retrospect, I could see that, as a counselor, I had used a predominantly qualitative approach in helping students grow as whole individuals, as well as in understanding their personal stories, their relationships to their elements, and the people in their lives. This approach has also served me well in my subsequent roles, and there was little question that it would inform my dissertation research. Fortunately,

having thoroughly reviewed many of the previous studies completed in the realm of health indicators and wellness trends, it was evident that such qualitative inquiry would address an unmet need in the literature.

Indeed, the historical document analysis and literature review that I completed based on perceived needs arising from professional experience strengthened my convictions about the need for a wellness study. The depth of this initial inquiry into the context of the topic was such that, by the completion of the entire study, it seemed as though I had undertaken two parallel and equally rigorous processes of data collection, analysis, and interpretation. Their emergent findings made it clear that the paradigm best suited to this paper was one of advocacy; with the intent to create an action agenda for reform of school wellness practices (Creswell, 2007).

Beyond the opportunity to call into question practices which hinder young people's development (Kemmis & Wilkinson, 1998), I was also drawn to the strong pragmatic element found in this type of study, with its emphasis on application of research and solutions to problems. And finally, to the extent that school fitness practices disenfranchise underserved populations, the study also reflects an element of critical theory, which seeks to censure "social organizations that privilege some at the expense of others" (Creswell, 2007, p. 22).

Throughout the study, then, I have remained consistent with qualitative theory, acting as the key instrument of data collection through open-ended interviews and observations conducted in participants' regular work environments. Similarly, I examined the historical context of societal forces that had been brought to bear upon the sites, used inductive analysis, and chose rich descriptions of the participants' environments and

procedures in writing up the results, with frequent deference to their own voices and perspectives (Creswell, 2007).

### *Responses to Concerns about Qualitative Research*

Bogdan and Biklen (2007) address questions about the generalizability of qualitative studies by positing that, assuming human behavior is not random, the logical question is not whether, but to which other settings, the findings apply. In an attempt to broaden the potential other settings to which the results of this study might apply, I selected multiple sites from locations of varying size and socioeconomic makeup. Another advantage to each of these sites was their practice of frequently allowing other practitioners to observe their facilities and benchmark best practices. In addition to minimizing any potential issues I might have otherwise had with gatekeepers, this high level of engagement has provided key individuals at the sites with perspectives on the circumstances of a multitude of other programs beyond their own, which I believe has further informed the applicability of the findings.

Another concern is the effect that researcher opinions and biases might have on a study's data, which can presumably be overcome by meticulous collection and maintenance of information, as well as frequent examination of one's own prejudices. As a former counselor, I have always been acutely aware of the potential effect the presence of outside entities can have on one's behavior. While in my former role there was generally an implied hope that my presence would effect change in the individual, in my role as a researcher gathering data, the opposite was often true. Fortunately, the skills of interacting with subjects in a genuine, mutually respectful manner are conducive to success in either endeavor. As such, I was able to use these corresponding counseling



skills to establish a positive rapport and encourage participants in the study to talk openly about their experiences.

Finally, there is the persistent, troubling question raised by positivists as to whether qualitative research can even be considered “scientific.” As Bogdan and Biklen (2007) point out, even noted scientists and mathematicians question the presence of a single replicable process that researchers should follow, having shown that they take “diverse, and often unascertainable steps in solving problems” (p. 41). Further, as Wheatley (1994) has suggested, if we use a scientific model, it should at least reflect the most recent advances in science rather than those of the 17th century. She notes that quantum physics seems to indicate “no formulae describing a single ‘reality;’ that there is only what we create through engagement with others,” and points out the irony that, as those in social arenas work conscientiously to use “scientific” methodologies, scientists themselves are moving into an entirely different way of understanding (p. 6-7).

### *Case Study Design*

For my research, I used in-depth data collection from multiple sources, including observations, interviews, and documents to examine relevant cases involving each level of K-12 wellness education, with a focus on one school in each of three Midwestern states. I intentionally chose case study design because it addressed deficiencies in this type of study in the research body, and because it is conducive to exploration and description.

Case study advocates point out that they generate much more detailed information than what is available through a statistical analysis. While statistical methods might be more suited to situations in which behavior is routine and of a similar nature, case studies

are needed to deal with creative, innovative environments (Colorado State University, 2008). This factor seemed relevant to me in my study design, since the originators of the programs being assessed were reported to be engaging in creative, innovative practices that were otherwise lacking in the profession.

### *Participant Sites*

I purposefully selected the three sites for this study, based on their status as maximal, atypical bounded systems (Creswell, 2007). In this type of sampling, sites are identified for study because they can “inform an understanding of the research problem and the central phenomenon in the study” (p. 125). It should be noted that all participating sites and individuals will be referred to using pseudonyms in order to honor the confidentiality that is part of ethical research guidelines and the IRB approved consent form used in this study. Another necessary clarification is that in each district, an exemplary school (an elementary, a middle, and high school) was identified as the primary location for study. However, because of the systemic model recommended by Section 204 of P.L. 108-265 (2004), care was taken to examine K-12 alignment of wellness programs, as well as the degree of community-school collaboration.

Nolan High School [pseudonym], a large suburban high school, was chosen for its nationally recognized physical education and learning readiness programs. Its high profile was brought to my attention while I was working as a consultant for an educational research organization in a nearby suburb. There was by far the most extant data on this particular site, due to the duration of its program, its culture of data collection and research partnerships, and the local and national media attention it has garnered.

Carver Middle School [pseudonym] was identified by staff at my first site as an

example of an inner city school with a diverse student body that had successfully implemented innovative wellness policies and practices. A second referral to this site was provided by staff at a non-profit physical education advocacy group, based in the same city, which has been instrumental in assisting the school and district with grants and corporate partnerships to fund programming.

The final site, Garrett Elementary [pseudonym], was in a small town, and was selected upon the recommendation of a number of local physical educators and counselors who praised its community-based approach. The school had also been featured in local and regional media for its innovative program coordinator, as well for as its collaborative initiatives.

Besides being recognized for programs that reflected the intent of the federal wellness legislation and the NASPE standards, a final criterion was that the site had applied for and received the Carol M. White Physical Education Program (PEP) Grant. This federal grant supports the initiation, expansion, and improvement of physical education programs in order to make progress toward meeting State standards by providing equipment, support, and funding for professional development (U.S. Department of Education, 2008).

#### *Site visits*

Site visits took place over the last two months of the 2007-2008 academic year, during the following time frames:

Nolan High School	April 14-17, 2008
Garrett Elementary School	May 7-9, 2008
Carver Middle School	May 14-16, 2008

### *Individual Participants*

I used purposeful sampling, identified by Anfara, Brown, and Mangione (2002) as improving prospects for transferability, to identify the initial interviewees in the study. Six were initially contacted (two at each site), and all were chosen for their potential capacity to facilitate a better understanding of each site's program initiative. Creswell (2007) writes of the importance of finding individuals who are "accessible, willing to provide information, and distinctive for their accomplishments" (p. 119). This description correlates well to my key informants, who were all lead teachers, department coordinators, or administrators who had been instrumental in the creation or advancement of the program. Then, using a snowball sampling technique, in which these participants were asked to recommend others, I interviewed content area teaching faculty and other school staff who had been at least peripherally involved in the program. Finally, from lists of community members and parents who were either serving on the district's wellness committee or involved in some collaborative effort with the schools, I selected the remaining participants.

I made initial contact with the two key individuals at each site by phone, well in advance of the visits. Subsequent interviews with other participants were set up either via email or at the site itself during my visit. Probably given the fact that the sites frequently host visitors from other schools and were being studied based on their exemplary status, I encountered none of the difficulties that can plague this type of research when accessing a site through gatekeepers. In each instance, I was made to feel extremely welcome and given complete access to school facilities and any staff who agreed to be interviewed. It should also be noted that every individual I asked for an interview or for permission to

observe in their area granted this request. I had the impression that this was a normal occurrence and that staff at these sites are generally quite proud of their programs and eager to share their successes with others in the field. While this permissive environment may seem unusual, I would recommend making it a prior condition of research, when possible, for two reasons: first, because it provides an element of transparency that enhances the credibility of the study. Secondly, if one is intent on studying exemplary sites, I now believe a willingness to interact freely with outside entities is a necessary component of the systems-based, sustainable model representative of that needed to effect lasting change.

Finally, the total number of interviewees, which ranged from eight at Carver Middle School to 16 at Garrett Elementary, was driven by my time allotment at each site (see *Instrumentation* section), the extent and proximity to which the program was connected to the community, and variations in the lead time I had to prepare for each site visit. This disparity was mitigated somewhat by an opportunity to spend more time observing facilities and programming at sites where fewer interviews took place. However, while these variations are characteristic of the emergent nature of this type of study, under ideal circumstances, I would have preferred to have achieved more balance and consistency in the number of interviews and duration of observations at each site.

#### *Human Subject Compliance*

I provided each participant, following initial contact and prior to the interview, with an information sheet and consent form about the study (Appendix A), which they signed and received a copy of as an acceptance of their willingness to participate. The form, which notified participants of their right to informed consent, confidentiality, and

potential risks and benefits, was approved by the Drake University Institutional Review Board (<http://www.drake.edu/academics/irb/index.php>) in order to protect the rights of research subjects. Prior to initiation of the study, I had previously completed the *Human Participants Protection Education for Research Teams* course, sponsored by the National Institutes of Health (NIH), on May 4, 2007.

### *Instrumentation*

Although multiple sources of data were collected for this study, I, as the researcher, was the key instrument of collection. Prior to visiting, I did extensive searches of the respective websites of each of the schools. Because of the distance needed to travel to each site and the condensed time frame available, equal to all or parts of three to four days per site, the majority of my time was filled with either interviews or program observations. With any remaining time on site, I worked with staff to access and copy documents pertaining to research collaborations, studies that participants have used to justify their approach, and media reports illustrating components of their programming. These additional data were later screened for relevant information and the contents added to the previously collected information on research protocols.

These protocols consisted of sets of mostly open-ended questions and targeted observation points. The key questions, based on original research subquestions and environmental and contextual queries modeled in Bogdan and Biklen (2007) are shown in Table 2 on the following pages.

Table 2

*Interview, Observation, and Data Protocol*

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## School Environment

1. Describe the school building, grounds, and neighborhood.
2. Provide a physical description of wellness class and activity use space.
3. Are wellness facilities available and accessible to students, staff, and community members outside of regular school hours? If so, when?
4. Are there adaptive wellness class spaces, equipment, and opportunities for students with disabilities? If so, please describe them.
5. What is the reputation of the school's wellness program in the community?
6. Can students and teachers define and intelligently discuss wellness practices and terminology used in the school? If so, please give evidence of how this occurs.

## Human Environment (Staff)

1. What are the professional backgrounds (certifications, education, experience, etc.) of teachers, administrators, and other staff involved in the wellness program?
2. What are their general attitudes and motivations with regard to the program's principles, activities, and benefits?
3. To what extent is staff involved in the planning, development, and assessment of wellness activities?
4. How are teachers and administrators encouraged to discuss and establish their own wellness goals and practices?
5. Please describe the administration's relationship to the program (e.g. implementation, development and support) and definition of the program and its success.

## Human Environment (Students and Parents)

1. What are the general attitudes and motivation of students and parents toward the wellness program's principles, activities, and benefits?
2. How are students and parents involved in planning and assessment of wellness activities?
3. To what extent do students work independently on their personal wellness? How is this measured?
4. Are they encouraged to establish their own wellness goals and practices?
5. What is the nature and amount of teacher contact with parents regarding their children's wellness and the wellness program in general?
6. Do students generally report feeling safe during wellness activities?
7. What is the nature of communication between students and staff?

## Wellness Environment

1. What is the history of the wellness program at this school?
2. Can you describe the organization, process and participation in programs?
3. What type of professional development exists for wellness staff?
4. Is there reinforcement of wellness principles throughout the school?
5. How is programming made available and attractive to all students and staff, regardless of age, gender, race, or socioeconomic background?
6. How often do students and staff have opportunities for physical activity?
7. What is the range of physical activities available?
8. How is wellness information disseminated throughout the school?
9. Are visitors allowed to observe wellness activities? Is this a common occurrence?
10. What is the balance between team sports and individual physical activities?
11. To what degree is programming holistic (connected to other content areas, nutrition program, health education services and programs, counseling)?
12. Is technology incorporated on a regular basis? If so, how?
13. Are wellness education and activities extended beyond the school walls?

## Nutrition

1. What types of food are served (and are nutritious, affordable choices available)?
2. What types of food and drink are available in vending machines/snack bars, etc.?
3. Are principles and benefits of good nutrition taught and reinforced? How?
4. Are meal programs staffed by qualified nutrition professionals?

## Health education

1. What is the scope and availability of health education in school?
2. Are the relationships addressed between physical activity, nutrition, and other health issues and how the body performs? If so, how?

## Individual and program assessment:

1. What is the general wellness level of students and staff? How is this measured?
  2. How is improvement of individual wellness levels monitored and assessed?
  3. How are wellness programs and their progress monitored and assessed?
  4. How are students graded in physical education, health and wellness classes?
-



In retrospect, a miscalculation was to include too many specific questions in the original protocol, which took an inordinate amount of time to cover in interviews and contributed information that was extraneous to the central research question. This issue largely resolved itself as the interviews progressed, however, as participants' responses to open-ended questions naturalistically addressed multiple protocol areas. Nevertheless, the situation could likely have been minimized if the protocol had been pilot-tested and I would strongly recommend this to anyone attempting this type of research.

With regard to the interviews, they were a beneficial, enlightening, and effective method of gathering information. This was in part because the interviewees tended to be highly motivated, invested, and knowledgeable individuals who were considered master teachers and educational leaders. Almost all interviews were conducted one-on-one, while a group interview at Garrett Elementary was held with three administrators because of time constraints. Although I considered using focus groups in order to be more time-efficient, it was impossible to align schedules in this manner and conceivable that the presence of other interviewees in the room might have inhibited some people's answers.

I typically completed formal interviews with school staff in their offices or classrooms, though I also had opportunities to ask follow up questions of them beyond the primary interviews. When interviewing community members I went to their place of business or else met with them in a room that was provided in the school or district office. The hour-long interviews were recorded, with participants' permission, using a digital recorder, then later transcribed in their entirety. Although I jotted notes on the interview protocol, in order to maintain eye contact and give participants my full attention I counted on the recorder for the majority of data collection. The written and

recorded materials, as well as other documents, were stored in a locked file cabinet in my home office when not in use. At the conclusion of each interview, I thanked each participant and, on occasion, asked about others who might have additional information on the topic (Creswell, 2007). I later emailed or phoned some of them with clarifying questions and requests for member checking of material, when warranted.

*Credibility, Transferability, and Dependability Issues*

Anfara et al. (2002), in an effort to differentiate qualitative research from positivist criteria, advocate for a number of strategies designed to make such work “more public,” as well as more “credible, transferable, dependable, and confirmable” (p. 28). In this case study, I triangulated my findings by using the supporting literature as a foundation and also by gathering data from interviews, personal observations, documents from the site, and outside media and scholarly sources, then cross-referencing intra-site, as well as inter-site data (a process described in more depth in the coding section).

Creswell (2007), meanwhile, suggests “prolonged engagement in the field” (p. 207) to enhance credibility. While cumulative time spent at each site was less than a week, I felt that my interactions with the participants were of high quality and variability; being granted permission to observe and talk freely in a variety of settings allowed for the building of trust and familiarity with the culture. Also, I employed thick, descriptive language in reporting of the settings and findings to address transferability (Anfara et al., 2002). In the first chapter, I attempted to clarify potential biases by discussing my related “experiences, prejudices, and the orientations that shaped my approach” (Creswell, 2007, p. 208), a strategy designed to further heighten readers’ trust and understanding.

Finally, I sought outside feedback by asking a professional peer to read my drafts throughout the process, while also member checking with key onsite individuals to ensure the accuracy of quotes, program information, and perceptions. In using their responses to help revise my work, it is hoped that further credibility has been gained.

### *Data Analysis*

According to Bogdan and Biklen (2007), data analysis involves working with data, organizing and breaking them into manageable units, coding and synthesizing, and searching for themes and patterns. While this accurately represents the general course of my own process, the brevity of the description seems insufficient to the scope of the actual undertaking. After the data gathering in the field, which had seemed an exhilarating process that passed in a blur, I experienced a letdown when I returned home and began to comprehend the sobering data management task ahead of me. This began with establishing and organizing my data files. While the interview and observation protocols held much raw information from each site, the majority of the textual data was to come from transcription of the interviews. This was achieved by slowly playing back each interview in its entirety and simultaneously speaking the questions and answers, verbatim, into a microphone connected to voice recognition software, which processed them into a computer file. The written responses, as well as additional data from sources gathered both at the site (test results, articles, and school profiles) and online, were then inserted into the appropriate sections of the protocol.

The next step was to read through the data and make margin notes as the first, rough codes. The first time through the protocols, this resulted in 99 different codes, shown in Table 3.

Table 3  
*Initial Coding Data (First Iteration)*

Accessibility	Empowerment	Nutrition
Action research	Enjoyable activities	education/practices
Active/movement	Evidence	Parent support
learning	Exercise/brain research	PE4life
Activity/fitness levels	Fewer behavioral	PE
down	incidents	institutes/workshops
Adaptive	Fitness center	Physical activity/test
facilities/practices	Fitness information	scores
Administrative support	FitnessGram	Potential impact
Adventure	Formalized research	Proactive approach
activities/sports	Funding	Problem solving
Advocacy	Grading and	Program assessment
Aquatic center	assessment	Respect for individual
Assessment focus	Health club facilities	School/community
Attention	Health	partners
Audio-visual aspects	education/practices	Self-esteem
Behavioral incidents	Health levels of	Shortcomings/failure
Body Mass Index	students	of PE
Burden on health	Health trends	Small-sided games
system	Heart rate monitors	Socio-emotional
Cardiovascular	High activity level	benefits
equipment	Hire within	Staff wellness practices
Childhood obesity	Holistic	Strength training
Climbing wall	Improved fitness	Student involvement
Collaboration	Improved test scores	Student planning/goals
Communicate	Individual progress	Student/parent
goals/results	reports	testimonials
Communication	Individual teachers	Sustainability
Confidence	Individualized	Target zone/fitness
Content area teachers	Internship program	data
Continuity of	Intrinsic motivation	Team building
leadership	Leadership	Technology assessment
Core strength	Learning Readiness	Televisions
Daily, quality, PE	classes	Traditional PE
programs	Life skills	marginalized
Data driven/data	Lifetime fitness vs.	Transformation of PE
collection	team sport	Transformational
Decline in health of	Lifetime	benefits
youth	fitness/learning	Video monitors
Documentation of	Maintenance	Visitors/media
progress	Mind/body connection	Walking program
Donations/grants (PEP)	Multimedia	Wide variety choices
Effort/progress-based	Music	YMCA partnership

However, after recoding by clustering similar codes and removing the more trivial data, I was able to identify 26 separate themes, categorized by original research sub-questions. These were separated by sites and further broken down by type of data (interviews, observations, or documents) in order to triangulate and audit the data. This second iteration of analysis can be seen in Table 4, identified by school (N=Nolan, C=Carver, G=Garrett).

Table 4

*Themes by Category and Site*

<b>Environment</b>	<b>Interviews</b>	<b>Observation</b>	<b>Documents</b>
Health club/YMCA facilities	N,C,G	N,C,G	N,C,G
<b>Causes</b>			
Marginalization of traditional PE	N,G		N
Negative health trends	N,C,G		N,C,G
Benefits of proactive lifelong fitness	N,C,G	G	N,C
<b>Key Players</b>			
Individual physical educators	N,C,G	N,C,G	N,C,G
Content area teachers	N,G		N,G
Administrators	N,C,G	N,C,G	G
<b>Practices</b>			
Wide range of activities	N,C,G	N,C,G	N,C,G
Use of technology for assessment	N,C,G	N,C,G	N,C,G
School and community partnerships	N,C,G	C,G	N,G
Emphasis on lifetime skills	N,C,G	N,C,G	N,C,G
Focus on lifetime fitness activities	N,C	N,C,G	N,C
Daily, high quality PE and participation	N,C,G	N,C,G	N,C,G
Individualized student planning/goals	N,C,G	N,G	N,G
Learning readiness PE/active learning	N,C,G	N,C,G	N

<b>Practices (continued)</b>	<b>Interviews</b>	<b>Observation</b>	<b>Documents</b>
Culture of research and data collection	N,C,G	N,C,G	N
Encouragement of outside observers	N,C,G	N,C,G	N,C,G
Nutrition program	C,G	C,G	C
<b>Evidence/Assessment</b>			
Academic achievement	N,C,G	N	N
Improved fitness	N,C,G	N	N,C
Socio-emotional benefits	N		N
Student/parent approval	N,G	G	N,G
Improved behavior/attendance	N,C	N,C	N,C
<b>Challenges</b>			
Administrative continuity/support	N,C,G		
Holistic/comprehensive program	N,C,G	N,C,G	N
Longitudinal evidence of success	N,C,G		

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Categorical aggregation (Creswell, 2007) turned out to be extremely helpful in discerning larger meanings and patterns from the original mass of data. For example, 17 of the 26 most prevalent themes were shared among all three exemplary sites and, when the second tier of coding was further condensed into ten larger conceptual themes or patterns, all three sites demonstrated these ten themes, to varying degrees, as shown in Chapter 4. I felt that, in addition to adding to the credibility, transferability, and dependability of the results of the study, this process reinforced my own formative assessments, developed in the field, of the similarities in the sites' philosophical and practical foundations.

In the next chapter, I have added overall descriptions of the case sites, followed by "naturalistic generalizations" (Creswell, 2007, p. 163) about all three as represented in the broader themes that make up the findings, including some potential obstacles to

implementation. In the last chapter, I have synthesized these common elements to propose a comprehensive wellness model, which could be used to inform practice at sites wishing to make a break with the past and embrace a more holistic, systemic approach.

### *Limitations of the Study*

While a diligent effort was made to design the study with credibility, transferability, and dependability in mind, there were nevertheless a number of potential limitations to this endeavor. First, it should be noted that the findings resulted, in part, from self-reported data provided by participants who were not chosen randomly. While this could be seen as a possible threat to credibility, it should also be pointed out that purposeful and snowball sampling techniques such as those employed here are common, well-documented techniques in the qualitative realm (Creswell, 2007; Bogdan & Biklen, 2007), as is the practice of presenting the voices of participants in the writing up of reports. Further, corroborating data such as direct observation and supporting documents were intentionally utilized to lessen this effect.

A second limitation related to the absence of direct student input to the body of data. Clearly, there is a need for this perspective in ongoing explorations of such initiatives, and some provision of student voices occurred in this study through quotations gathered in site documents, outside literature, and various media sources. The lack of student interviews here was due in part to the timeline of the study, which did not allow for completion of the measures necessary to receive permission to involve minors. However, it should also be noted that, as a program history and evaluation, the perspective of the adult professionals who had been instrumental in initiating and developing the plans were of highest priority. In any case, student-generated perspectives

and accounts of participation levels should be a part of future work dedicated to wellness programs, and the longitudinal tracking of such data is strongly suggested for future research in Chapter 5.

Finally, the duration of time in the field due to the study of multiple sites could, to some degree, be seen as a limitation. Creswell (2007) advocates for prolonged engagement to the extent possible, noting that studying more than one case can occasionally have the effect of diluting the data. However, he goes on to acknowledge that the use of more than one site can, as in this study, be incorporated into the research design for the purpose of enhancing generalizability.



## Chapter 4

### FINDINGS

The findings of this study are based on the programmatic responses of three schools to the decline in youth fitness and health practices. They are based on two sets of subquestions; the first related to elements of school environment, program origins, best practices, and outcomes, and the second pertaining to the common practices of the three sites and challenges to their being more universally implemented. All of these topical areas were grounded within the context of the existing literature.

The following ten findings based on these guiding questions reveal that, despite significant differences in the size, location, and demographics of the institutions studied, remarkable similarities exist in the means used to advance wellness-oriented lifestyles:

1. Wellness environments showed marked similarities.
2. Programs were initiated by concerned educators, originally working in isolation, who advocated for proactive health and fitness models.
3. There is a definitive emphasis on lifetime fitness.
4. Programs are individualized and choice based.
5. Programs emphasize development of the whole person.
6. School and community partnerships have been primary catalysts for growth.
7. Programs place a high priority on technology for self-and-program assessment.
8. Programs have fostered a research and data-driven culture.
9. Programs show evidence of the positive impact of wellness programming.
10. Programs recognize challenges to broader implementation and long term success.

A summary of how these findings were manifested at each site is found in Table 5.

Table 5

*Summary of Findings by Site*

<b>Findings</b>	<b>Nolan H.S.</b>	<b>Carver M.S.</b>	<b>Garrett Elementary</b>
1. Environment	Large suburban school; fitness center, pool, weights aerobic/dance studios, adventure sports (climbing wall/high ropes).	Inner city middle school; fitness center, pool, video exercise gaming stations, and aerobic stations room. Multiple PEP grant awardees.	Small town elementary; state-of-the-art gym with projection equipment and sound system, shared-use YMCA Fitness Center adjoining high school.
2. Origins (initiated by concerned educators)	Teachers concerned about declining youth health trends, PE profession's lack of response began initiative to provide effort and choice-based curriculum.	Teachers saw decline in student fitness, partnered with PE coordinator/non-profit advocacy group to write PEP grant to upgrade facilities, add teachers.	Teacher, working with pioneer in use of heart rate monitors, developed whole child fitness curriculum. Administrator acted as catalyst, building K-12 alignment.
3. Lifetime fitness emphasis	Intent is to maximize student participation; prepare students to make good choices about fitness after they graduate and are on their own.	All kids engaged, all the time. Students "will never have a day in their lives when they don't know how to exercise or eat right."	"Energize and educate for healthy lifestyles." Encourages high level of participation in class; paramount to increase children's activity levels.
4 Choice-based/individualized/	Students develop individual wellness plan; choose from 50 activities in 6 areas, including adventure sports, small-sided games, cardio and dance classes.	Structured play (few opportunities among inner city youth and importance in improving social interactions). Aerobic, swimming and walking programs.	Empowers students to make positive, proactive choices about their health. Individual exercise plan promotes working out on own; spend 12 years learning about fitness.
5. Whole person development	Leadership and adventure education promote trust, cooperation, risk taking, teamwork, problem solving; goal is to carry experience gained to other life situations.	Students learn about relationship between exercise and nutrition. Social skills are incorporated with physical activity. Emphasis is on respect for self, peers, and adults.	Students complete tasks using teamwork and communication. PE classes incorporate language and vocabulary. Interdisciplinary activities; emphasis on respect for individual.

<b>Findings (continued)</b>	<b>Nolan H.S.</b>	<b>Carver M.S.</b>	<b>Garrett Elementary</b>
6. Partnerships/ collaborations	Collaborate with content area teachers in learning readiness classes; medical community provides health screenings; host annual PE conference and encourage visitors. PE4life partner.	Collaboration with PE4life connected schools to business, health care donors in the community; allowed for hiring of extra instructor and move to daily PE; upgraded facilities and fitness equipment.	Network of partnerships with healthcare and local citizens' groups; community YMCA on campus; graduate immersion program with nearby university; students live, learn, work in community.
7. Technology for self, program assessment	Heart rate monitors, assessment equipment; fitness testing updates improvement on individual plans. PDAs for teachers to monitor effort.	Heart rate monitors and assessment hardware/ software; Pocket PCs for teachers to monitor student effort and provide immediate feedback on workouts.	Extensive use of heart rate monitors at all levels (from elementary students through community members); also used in student assessment of progress on exercise plans.
8. Research and data-driven culture	Research partnerships with colleges to test fitness and academic gains; applying brain research linked to exercise.	Focus on benefits of exercise and nutrition for the brain; also partner with state university to track students' fitness gains.	Partnership with local university to assess program gains as outcomes of fitness programming.
9. Evidence of impact	Academic achievement, socio-emotional benefits, High student/parent approval ratings.	Improved behavior and attendance. Increases in test scores and fitness test results	Increases in fitness, academic scores. Anecdotal evidence of socio-emotional benefits.
10. Challenges	Sustainability (funding, facilities, personnel), and nutrition issues.	Sustainability (support/ resources); evidence of longitudinal success.	Continuity of support/ resources, should leadership or funding streams change.

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These findings will now be examined in greater depth. By creating a composite view of the most highly developed of these conceptual areas, a prescription for comprehensive change emerged, which will be discussed in the next chapter.

*1. Wellness environments showed marked similarities.*

Given the obvious demographic disparities among a small town elementary school like Garrett, an inner city middle school like Carver, and a large suburban high school like Nolan, it was a revelation to discover that all shared significant common ground. Besides their high tech facilities and equipment, all were noteworthy for their practice of encouraging colleagues and researchers to visit.

The reason for such intense interest in a largely discredited discipline became better understood by touring the schools' wellness facilities, which tended toward those of well-stocked health clubs: fitness rooms bristling with treadmills, elliptical trainers, and exercise bikes were common, most with television monitors and piped-in music. Other options included aerobics and dance studios, climbing walls, water exercises, video game workouts, and self-defense classes.

In the lower grades, children moved energetically through a variety of stations utilizing cones, hoops, and ropes, guided by color-coded instructions and vocabulary projected onto a large screen. Students were simultaneously reinforcing reading skills, motor skills, and team building, while clearly enjoying the experience. To further dispel any gym class stereotypes, teachers wearing headsets and carrying handheld personal computers to monitor students' heart rates moved about purposefully, providing individual feedback.

Finally, each site had some variation of a technology center using fitness

assessment equipment and software to measure and store data, facilitating program evaluation and formal research partnerships with higher education.

Even as a former physical educator, I was unprepared for the comparative advantages these programs offered, particularly given the reality that most of the young people in our educational system are still subjected to traditional, one-size-fits-all physical education experiences.

While the upscale facilities may seem daunting to underfunded schools looking to change their circumstances, it should be noted that none of them existed at the outset. In fact, most of the innovators of these programs advocated for simple and less expensive steps that should be implemented first. Additionally, it should be pointed out that these facilities were developed and maintained on annual physical education budgets averaging between a dollar and two dollars per student. One former program director commented that, if they plan intentionally, “schools can now do in five years what it took us twenty to accomplish.”

*2. Programs were initiated by concerned teachers often working in isolation.*

What, and who, was initially responsible for such a high prioritization of fitness at these sites? For context, consider Ratey and Hagerman’s (2008) portrayal of physical education: “I grew up thinking that gym was a joke. When I lectured about the positives of physical activity...I certainly wasn’t thinking of gym as the antidote. The cruel irony was that the out-of shape kids who could most benefit from exercise were humiliated and pushed to the [sidelines]” (p. 29).

Laker (2001, p. 93) reinforced this, stating: “Traditional physical education as we know it...does not meet the needs of pupils, and is missing its potential to be an agent for

change and good in an educational system that is now asking much more of its subjects than just teaching facts and skills.”

I can easily relate to both of these perspectives as I recall the frustration of feeling locked into teaching an outdated curriculum with no element of choice, watching as students who intensely disliked competitive sports or who were self-conscious about their lack of skill or grace would go to almost superhuman lengths to avoid participating. In hindsight, I can see now that these experiences are exactly the types that have discouraged much of our adult population from remaining active.

Pete Lawrence, a longtime educator in the Nolan District, admitted that he, too, taught for years before realizing “the misery that PE (physical education) class sometimes caused for kids.” The effort to correct this developed slowly because there was “no blueprint to follow,” but Lawrence recalls an article about the decline in children’s health causing an epiphany. “Teachers were asking, ‘We see these kids every day; shouldn’t we be able to make a difference?’ The article was a turning point for us, a chance to make our jobs matter” (Ratey & Hagerman, 2008).

*Teachers are advocating for a proactive health model.*

In contrast to many of their peers, the educators I interviewed in this study are almost militantly dedicated to their roles as change agents. Rob Schumann, program coordinator at Garrett Elementary, spoke of the “dumbing down” of children when it comes to wellness, pointing out that, after learning in school about the benefits of health and fitness, many students go home to parents who routinely pick up fast food and a DVD for their evening dinner and entertainment. He asked pointedly, “Do they do it because they want their kid to be unhealthy? No, but when it comes to what parents most

value for their children, their health, it's the very thing that they're not emphasizing. So, who's going to be the advocate?"

To answer that, in every instance among the studied schools it was individual or small groups of committed teachers, concerned about health indicators among children showing an alarming rise in obesity, diabetes, and other early predictors of preventable death, who took on leadership roles. Tellingly, many of these individuals were described as being driven, or "forces of nature." When I asked Schumann what motivates him, he spoke convincingly about the need for "a passionate commitment to teaching," revealing, "I went through having cancer 10 years ago and I believe if there is no purpose in what you're doing, what's the point in spending time at it? There has to be purpose in our work and I truly feel that in what I do."

During his tenure in the Nolan School District, Pete Lawrence has met with Secretaries of Education and Chief Executive Officers of Fortune 500 corporations, lobbied the Senate for funding, keynoted national conventions, and been selected to the USA All-Teacher team. In his crusade to confront the educational, corporate, and governmental establishments on a lack of commitment to youth health, Lawrence has had a career-long collaborator in John Lewandowski, the no-nonsense Nolan High School physical education and health department chair. Both have become self-taught experts on brain research related to exercise and have used it to advance their cause (Ratey & Hagerman, 2008).

Lewandowski tirelessly promotes the program by leading frequent workshops and tours. While thoughtful in discussion during his rare moments at rest, he is clearly a man more comfortable in motion, who believes in, and lives, the mission. "[Pete] and I created

this program with the intent to maximize student participation in activities. Our fundamental purpose is to prepare students to make their own good choices about fitness, not just now but, more importantly, after they leave here and are on their own.”

The department chair at Carver Middle School, as well as the district physical education coordinator, battled to establish a wellness pilot program that might reverse the fortunes of kids in their urban setting. With the help of a Physical Education Program grant (U.S. Department of Education, 2008) and the advocacy of the nonprofit PE4Life (2008), they were able to open a fitness center and hire an extra teacher. While other staff members were at first dubious about the program’s worth, their minds were changed by the clearly noticeable decline in disciplinary incidents and increase in test scores during the first years of the program’s implementation. Since being awarded a second PEP grant, the large urban district of which Carver is a part has begun to phase in their model throughout all K-8 schools.

While these examples go a long way toward explaining how program leaders were able to bring such ambitious undertakings to fruition, it also speaks to the concerns occasionally voiced about the likelihood of sustaining such efforts in their eventual absence. I have long been interested in Collins’ (2001) admonition that charismatic, change-oriented leaders need to devote more time to developing able successors in order to carry on their mission, and I believe it is this variable that will go a long way toward determining whether these wellness initiatives endure.

#### *School and district administrators*

Administrators at the sites have, by all accounts, provided invaluable support, resources, and motivation to the school and community wellness initiatives. While



initially only permission-givers, they have gradually emerged as full partners, integrating movement into staff activities, facilitating cross-curricular collaboration, and speaking at conferences about the benefits of their schools' programs. As one teacher commented, "increasingly, the administration is sending a message that this is a significant part of who we are as a building."

I spoke with a health teacher who summed it up by saying: "I don't think any of this gets done without [the superintendent]. He's quite the advocate for fitness; he instills that in his staff and it's understood that it's important. If every district had a superintendent like that, they'd be very different places."

The critical nature of administrative support in the development and maintenance of these initiatives was a frequent topic during interviews. The consensus seemed to be that the likelihood of success would be greater if new administrators and teachers brought with them a sort of "wellness worldview" or perspective. This begs the question of whether it would be justified to incorporate a wellness component into teacher and administrator preparation programs, an issue which will be dealt with further in the next chapter.

The next segment is designed to address the research question: What practices are currently in place that contribute to these sites being more fit, or well, than others? After coding and searching for patterns among data, the following exemplary practices emerged:

### *3. There is a definitive emphasis on lifetime fitness.*

The concept of a lifetime fitness approach was, based on the frequency of responses from interviewees and its prevalence in the literature, unequivocally the single

most important factor in developing a school-based wellness model. As shown in Chapter 2, the results of regular physical activity may be the most comprehensive and beneficial of any wellness component. The national standards charge schools, above all, with developing graduates who have the knowledge and confidence to “enjoy a lifetime of healthful physical activity” (NASPE, 2008). Nevertheless, all of the schools studied here at one time adhered to the traditional curriculum in which a large percentage of time was devoted to practicing sports skills (Green, 2004). One teacher admitted that, prior to the advent of the wellness initiative, “We were in the business of making better athletes.” John Lewandowski at Nolan High School warned against “getting bogged down in the team sport mentality.” He related that the president of the national association had once visited the school and, though duly impressed, “suggested we were not doing enough skill building for sports. I argued that, when I’m talking to a parent, it doesn’t matter much to them if their child’s free throw shooting percentage improves; but if their child is developing a habit of aerobic fitness that’ll carry over into adulthood, it seems to matter to them a great deal.”

This philosophy pervaded the three sites I studied. While interviewing a junior high teacher, I asked whether, while lifelong learning is part of most mission statements, we tend to ignore it in lieu of preparing athletes. He correctly observed that, in every community in our nation, “if you want to become a better football player or basketball player there are avenues for that to happen; travel teams, skill academies, personal trainers and so on. The school should be offering them more choices instead of imposing a fixed agenda upon them, so that they are more likely to become lifelong consumers of fitness.”

This approach is outside of the realm of most adults' imaginations. For those scarred by memories of being permanent targets in dodge ball and of being picked last for teams, it would be unrecognizable (Ratey & Hagerman, 2008), but even as a former teacher and coach, I was unprepared for the impact of this system that feels more like a lifestyle than a curriculum. This is supported by Cale and Harris (2006), who advocated for activities that are likely to be carried over into adulthood, and by Carrel et al. (2005), who found that overweight children lost significantly more body fat when they performed lifetime sports as compared to competitive team sports.

I should point out that classes in these schools were not devoid of sports; they were but one part of a more balanced approach reflecting the reality that only a very small fraction of adults play team sports to stay fit (Ratey & Hagerman, 2008, p. 17). However, even the sports that are played have been retrofitted to produce more aerobic benefits. Small sided games, adapted versions of team sports such as 3-on-3 basketball and 4-on-4 soccer, have become program staples, encouraging a more active, aerobic effect. Lawrence told me that, as a byproduct, it has encouraged self-directed learning. "We'd have multiple games going on at once so it required them to problem-solve, mediate, communicate. It really changed the dynamics; everyone, even the less talented kids, felt a part of the team."

*Emphasis on regular physical activity*

This effort to increase activity and participation is the key challenge for lifelong fitness proponents; the recently released physical activity guidelines from the U.S. Department of Health and Human Services (2008) specifies an hour a day of moderate to intense activity for youth. The reality is that most American children, and adults, are

getting nowhere near that amount. Even the fewer than 10% of children who are attending daily physical education classes report being active less than a third of the time while there (CDC, 2001). Laker (2001, p. 56) states it succinctly: "Effective teachers of physical education maximize the time that their pupils can spend [participating]."

Each of the three sites I visited is an embodiment of this concept; for one Nolan High School teacher, it all boils down to "being active, getting students moving. You'll notice all of our [activities] encourage greater participation." Indeed, each activity is designed to provide maximal conditioning, with constant feedback from heart rate monitors used to assess students based on percentage of time they maintain an aerobic fitness level.

And finally, an inner city administrator told me emphatically that the essence of their program, which has correlated to a 70% decrease in behavior referrals, is "all kids engaged, all the time. It's not something that is specific to the athletes, in fact just the opposite: it's really set up for the non-athletes. All of the things that you see here; all of the circuit training equipment, the electronics, could be accomplished with other low-tech equipment."

The lack of such an emphasis on active participation may be the central contributing factor to the inability of the profession to address such problems as the childhood obesity epidemic or, indeed, to justify its own existence. Whether because of lack of will, creativity, or resources, the status quo in schools today is for most students to be physically inactive, and, of those relative few who are taking physical education, most are still inactive for a majority of class time and there is generally only a single activity option available.

*4. Programs are individualized and choice based.*

My first hour at one site took in a class of students performing Tai Chi, a frenzy of 4-on-4 soccer matches, and a water aerobics class. This was no coincidence; providing a wide variety of fitness options for students is a cornerstone of the wellness framework. On one school's website, I found listed no fewer than 50 activities from which to choose (Appendix B).

This is not just good practice; it should be a basic right. In Zeigler (2005) we are told that "life's meaning lies in the values which we find in it, and values are the product of choice" (p. 259). On a less existential level, we have recognized for years that we need to differentiate instruction if we are to meet the needs of students who are widely diverse in their interests and development (Tomlinson, 2001). Ratey and Hagerman (2008) described the success of wellness models in achieving this, noting that they are "opening up new vistas for students by exposing them to such a wide range of activities that they can't help but find something they enjoy" (p. 12).

Besides providing an element of choice, a key objective in each of these programs was to develop students' abilities to create and assess a personal fitness program, so as they moved through the grades, they gradually became more responsible for their own workout activities. In every program, there were regular assessment mechanisms set up to monitor improvement and recalibrate goals as necessary. The plans, which in some cases also included a surprisingly wide array of health indicators, were updated regularly through graduation, upon which students received a comprehensive report to take with them to college or into the workforce. As Ratey and Hagerman (2008) note, "It is an astonishingly comprehensive document by any professional standard, let alone one that

an 18-year-old can carry in his hand as he steps into adult life (p. 23).

*5. Programs emphasize development of the whole person.*

All of these programs, to varying degrees, aspired to the holistic qualities that are implicit in a wellness model and this is perhaps where they diverge most sharply from their predecessors and peers. The extent to which they are able to impact the needs of the whole child may be a bellwether of the prospects for long term success and sustainability of such initiatives.

The positive influence of physical activity on self-esteem (Gruber, 1986) is well documented and this positive self-image is critical for children to learn most effectively. According to Laker (2001), in addition to the residual effects on individual learning and confidence, the case can easily be made that a larger societal outcome is achieved: Good fitness experiences in school lead to “positive perceptions of physical activity, which in turn lead to healthy, active lifestyles, thereby...resulting in a healthier population” (p. 94).

Rock climbing walls, high ropes courses, and other team building activities, often referred to collectively as adventure education, seemed to me the most recent and obvious departure from “old school gym class,” with perhaps the greatest chance to effect the aforementioned positive perceptions of any physical education offering yet. The teachers I spoke with were effusive in their praise of these activities, noting their effectiveness in developing important life skills such as planning, communication, problem solving, collaboration, and studied risk taking. The reason for this is evident; one of the most enduring challenges for educators is that of providing opportunities for applied learning and, with their kinesthetic properties and post-activity debriefing, such activities strike a

powerful and memorable balance.

The transferability (Anfara et al., 2002) of such experiential learning appeared to address a perceived need in the workforce, as well. Teachers and coordinators spoke repeatedly about the positive feedback they've received from employers who have visited their sites, identifying these competencies as desirable, even necessary, in prospective employees, and noting that they are often forced to spend thousands of training dollars to develop these skills in their workers.

Life skills were not limited to the secondary level; at Garrett Elementary I watched students work on task completion using collaboration and time management skills. Reading and math skills were also incorporated into the lessons, for one of the most integrated environments that I have witnessed in over 20 years in education. I watched a video that had been shot previously during a challenge course that, in its infusion of physical activity to the science of the heart and cardiovascular system, along with a healthy dose of music and art, seemed the epitome of cross-curricular instruction.

Finally, a learning readiness program at Nolan High School, based on research correlating exercise with higher concentration and brain function, paired early bird physical education classes with active learning in literacy and math classes. The outcomes of this program have shown exciting results, with students showing significantly greater achievement gains than peers who did not exercise beforehand (Retrieved June 22, 2008, from the NHS website).

I visited some of these cross-curricular classes and observed students at various stations, some pedaling furiously on stationary bikes, while others perched on balance boards or performed cross lateral movement exercises. Other stations featured pairs of

students sitting on stability ball seats, quizzing each other with flash cards or actively reading and reflecting on stories. Their literacy teacher explained:

We're incorporating a bike sprint into a reading unit about the first black cycling champion. The premise behind what we're doing is that physical activity improves readiness to learn. The students, as you can see, really embrace these connections.

Another teacher added that she has observed "far fewer nonparticipants than there were before we began this collaboration. A byproduct is that the kids are more ready, focused, and energetic when they do seated activities after movement sessions."

As I observed the adventure education and cross-curricular classes, it occurred to me that these activities, when well planned, address the entire educational triad of rigor, relevance, and relationships very effectively. By applying life and career skills to physically challenging settings, then encouraging students to work in teams to accomplish goals, they set a powerful yet achievable example and another piece of evidence to support their further integration into existing curricula.

*6. School and community partnerships have been the primary catalysts for growth.*

The most frequent lament of visitors to wellness sites has been, "We don't have funding to do this." Most are amazed to find that district physical education budgets often limit per student spending to about a dollar per student. This has been supplemented for years by grants and partnerships with businesses and health care providers. The nature of these ranged from direct donations of equipment and funds to the sharing of expertise, resources, and information.

The Nolan District schools, for instance, have formed a close bond with the local



medical community, which has provided such things as free cholesterol screenings and EKGs for every student in the district. The cooperating doctors and clinics justified the expense for this by pointing out that they would rather assist in preventing heart disease than treat it. One cardiologist indicated his support for the school's wellness initiative with the sobering reminder that, "If we don't teach kids how to exercise early, we're not going to get them to do it later in life when I see them and they're ready for bypass surgery."

It seems intuitive that there would be more collaborations of this nature between physical educators and health professionals, given the prospective benefits to both. Perhaps, as the extent of the known health benefits of exercise broadens and insurance costs continue to rise, it will become more in vogue to combine forces in this way. In the meantime, a frequent admonition from physical educators in the district to physicians has been "we can't prescribe medication, but you *can* prescribe exercise."

Perhaps the most unique aspect of the Garrett School District's wellness initiative was the extent to which the objectives of the school and the community have been merged. One reason for this was that school leaders managed to get community members interested and involved in their own wellness. In this regard, the partnership with the YMCA has been a major success: "Our fitness center, located in [the] high school, is truly a community resource. We have students working out side-by-side with adults and senior citizens. What a powerful message we send to students when we...model for them instead of telling them what to do" (PE4life, 2007, p. 19). One teacher noted that, based on his town's model, he would amend the saying, "It takes a village to raise a child," to say it takes a village to raise a *healthy* child.

Here, too, the local hospital has been a key partner, running health fairs and blood drives, providing trainers and even physical therapy services. Their objective has been to provide students with the knowledge of how to stretch and perform exercises in a way that lessens the chance of injuries. Another area where the two entities have partnered closely is working on weight management with young families to combat obesity. There is even an effort to promote the health professions to students, by offering college dual credit classes. The hospital provides a clinical site for students to come in and shadow health professionals; the school provides the classroom space.

Garrett School District's most ambitious and profitable collaboration, however, has been a shared immersion program with a state university, in which graduate students live, learn, and teach physical education and wellness classes in the community while earning a Master's degree. It has been beneficial on many fronts, providing additional teaching staff and new ideas, while preparing a future generation of physical educators in the new wellness model.

I spoke with a number of the graduate students, who apply from all over the country. One participant spoke excitedly of the hands-on, application-based nature of the program: "You're using the latest technology and you get to use this unique software for assessments and collecting data. It's been a great life experience and I've grown a great deal in the field of education." Another byproduct of this partnership is that the district has made a habit of hiring the program's graduates to fill open positions, but for those who move on, according to one teacher, "It's a process of planting seeds that hopefully will bear fruit in other places; gradually overturning the stereotype of the traditional physical education teacher who just rolls the balls out to the kids and has them play a

game every day.”

Perhaps the most visible collaborations at all three sites involve the many visitors who are welcome to come in, observe programs, and ask questions. They have included thousands of teachers from around the nation and the world, college and university faculty, politicians, as well as journalists from dozens of media outlets.

After having visited the three districts and observing the extent to which they rely upon these community, business, and school partnerships for much of their growth and success, I reflected on the nature of such collaborations and why they are not more widespread. In an age of global networks and competition, the future wellbeing of communities and their schools will continue to be increasingly interconnected and dependent on mutual preparation and support. Historically, however, there seems to have been reluctance on the part of the educational community to work with outside entities, perhaps due to concern over maintaining academic integrity. While I understand, and to a degree, share this concern, given the collective problems we face as an educational system, an economy, and a country, it appears that such partnerships, if entered in good faith, offer many more potential benefits than threats. As one school official pointed out in an interview, “Remember that, as schools, we have every future employee of every organization in the U.S. in our classrooms today and, considering the employment and health care issues faced by companies, they need to work hand-in-hand with us to solve the problem.”

*7. Programs place a high priority on using technology for self-and-program assessment.*

*The technological revolution will gradually engulf our schools as we rethink their role and the way they functions. The direct challenge to our society, therefore, is*

*the way we use the new technology* (Drucker, 1993).

The advent of highly accurate and relatively inexpensive heart rate monitors and related assessment software holds the potential to providing the objective data that has long been missing in the field of physical education. It allows for immediate feedback to individuals, as well as the opportunity to evaluate the effectiveness of specific activities for programming. It also provides much-needed data to researchers looking to re-establish physical activity as a valid, necessary component of a complete education (Stone et al., 1998).

The use of heart rate monitors to level the playing field in physical education at Nolan High School began as a serendipitous discovery during an otherwise mundane event. When Pete Lawrence asked a student to try out one of the new monitors in class one day during the mile run, she took 13 minutes to finish and Lawrence was prepared to tell her that she had failed and would need to work harder in the future. But, he recalls, “When I downloaded data from the monitor, her average heart rate was 187 and had been as high as 207 [out of a maximum of 209]! That's when the light bulb came on; I realized kids were being turned off to exercise because they were working extremely hard and not getting credit for it.”

This revelation led to their purchasing a classroom set of heart rate monitors. Lawrence relates how, after having students wear them for each unit, “We discovered that we didn't have one activity--other than the mile walk/run--that kept their heart rates up to an aerobic level. Not one!” This led to the beginning of wholesale changes in programming, as well as grading and assessment.

While the initial changes may have seemed limited in scope, the adjustments

represented a fundamental paradigm shift. Instead of being assessed on inherent athletic ability or arbitrary behaviors unrelated to fitness, such as dressing and showering, students were, for the first time, being graded on effort and progress toward established personal goals.

Heart rate monitors are now ubiquitous at all three sites. I watched a well-rehearsed routine at the start of each period: students would come into class and, without prompting, choose a monitor and transmitter strap and begin working out on one of dozens of exercise machines. The teacher would circle the room, glancing at a handheld device that receives infrared signals from each student's monitor and displays it in graph form, using it to provide feedback and encouragement. These graphs--showing total time in one's target heart rate zone—are a powerful source of formative assessment. At the end of class, students would converge on the teacher and eagerly inquire about the length of time they had spent in their “zone.”

*8. Programs have fostered a research and data-driven culture.*

If providing students with palatable choices for exercise is essential to engage them as consumers of fitness, and if community partnerships are necessary to grow wellness programming, then promoting a broader awareness of research linking exercise to academic achievement may just be the profession's only hope for redemption.

In an era of accountability for continuous improvement, the teachers interviewed seemed unanimous in their conviction that what will separate them from other programs is “the data we collect, showing that we are, in fact, making a difference” (PE4life, 2007). With the pressure on schools to demonstrate that they are meeting standards and improving scores, promoting and participating in action research and formal studies

furthering the links between exercise and positive student health, socio-emotional, and academic outcomes will likely be the only way to regain a significant place at the table.

*9. Evidence of positive impact of the programs existed at each site.*

The final exploratory research question asked, “What evidence exists supporting the correlation between wellness practices and positive outcomes?” The most compelling and potentially influential evidence stemmed from correlations between increased student physical activity, enhanced fitness and health levels, and academic improvement.

Action research undertaken by the staff at Nolan High School, for instance, found that students participating in learning readiness physical education gained a full extra year in math and literacy achievement and scored an average of 17% higher than peers who were not in the program.

Nolan High was also noteworthy in that its student body may be one of the fittest in the nation, with only *three percent* overweight or obese versus about 30% nationally (Ratey & Hagerman, 2008). At the same time, they have remained competitive academically with the world’s top students, ranking as high as first in math and sixth on the Trends in International Mathematics and Science Study (TIMSS). While causation cannot be proven, this would appear to at least reinforce the California Department of Education’s findings of a high degree of correlation between fitness and academic achievement.

Meanwhile, standardized health assessments at Carver Middle School showed that students’ Body Mass Indexes (BMI) have dropped significantly since they implemented daily physical education. During the same time period, Carver has scored 10 points higher on state tests than any other district school and, since the program’s inception, the

number of students in the advanced proficiency category has increased every year. Finally, and perhaps most remarkably, the number of suspension days issued has decreased from over 1300 to 400 after the wellness program's implementation, with no other significant changes occurring during the same time.

Parent, student, and community opinions of the wellness initiatives are reported as being overwhelmingly positive, as well. The annual parent satisfaction survey at Nolan High School, for example, consistently ranks physical education as the number one academic program, with a 95% approval rating. A graduate of the program recalls being "overweight and lazy as a kid; no self-esteem or confidence." After learning to set fitness goals in class, she lost 40 pounds and gained confidence: "Once you have that, you can change anything. I'm business major now and I don't just want to be a manager. I want to be a CEO."

I spoke with a parent of students in the Garrett District, a hospital administrator, who observed: "I think it rounds them out as individuals so much better; there are so many choices for them here. Their knowledge base about caring for their bodies, eating right, staying hydrated, exercising, and all of those things is so far advanced for their age."

Of course, some of these indicators of success cannot be linked directly to the presence of wellness programming in the schools, but in many cases they are variables that have changed simultaneously at the sites in recent years, and the correlations are difficult to dismiss. It should also be noted that all three districts are in ongoing collaborations with researchers in higher education settings to gather and study data in hopes of establishing a broader and more concrete body of evidence.

*10. Programs recognize challenges they face in broader implementation and long term success.*

Given that so much compelling evidence exists in their favor, what are the obstacles to wellness models being more systematically or universally implemented? From the outset, I have considered this final research subquestion to be one of the most significant areas of inquiry, since a broadening of the influence and application of such programs is one of the most desired outcomes of this process. Whether for nascent programs struggling to gain a foothold or established ones trying to avoid entropy, personnel at the respective sites were able to identify a number of challenges to growth and sustainability.

A long-term commitment to resources in the form of time, funding, and personnel was the most commonly mentioned concern. The task of building programs of this scope, with their need to write grants, develop partnerships, expand facilities, and ask for sacrifices from staff and community members, could sometimes seem monumental. Additionally, teaching roles required a high degree of energy, engagement, and feedback, as well as competence with educational technology.

Leadership continuity and issues surrounding staff turnover also dominate concerns about sustainability. Many participants expressed concerns about the prospect of a leadership vacuum or change in philosophy should key administrators or program coordinators leave.

Within the context of the holistic definition of wellness, the development of comprehensive programming seemed a particular challenge to even exemplary sites. For example, while two of the three sites reported significant changes to their nutrition



programs (e.g. healthy school lunch offerings, dieticians on staff, banning unhealthy foods from vending machines), many interviewees still spoke at length of the difficulties faced in changing students eating habits. Another area that was disappointing was that of staff wellness. While two sites had identified incentives for staff members to take part in wellness activities, the participation rates seemed low and it was obvious that this aspect of programming lags far behind that of student offerings.

Another threat to wellness initiatives, according to participants, came from an historical lack of respect for the physical education profession and its methods. In particular, previous failures to quantify the value of physical activity through assessment and a lack of emphasis on wellness practices and advocacy by teacher preparation programs are cited as obstacles to be overcome.

Finally, key individuals at all sites spoke of the need for more longitudinal evidence to determine how effectively the enhanced knowledge and practice of health and fitness that students gain in programs such as these are carried over into adulthood.

### *Reflections on Findings*

Without previously knowing anything about the sites chosen for this study, other than their reputation for innovation, I came away from the experience with a genuine and profound admiration for the individual teachers and their accomplishments.

Beginning with little more than gnawing concerns about the general decline they were witnessing in their students' health and attitudes toward exercise, and motivated by a sense of professional duty to change the *status quo*, most have made great personal sacrifices to effect change. I got a true sense of altruism from these educators. One noted, "To become whole you have to become part of something bigger than yourself. This is

not so much about me or about my career; it's about helping the people in this community live better. There's no better or nobler charge than that."

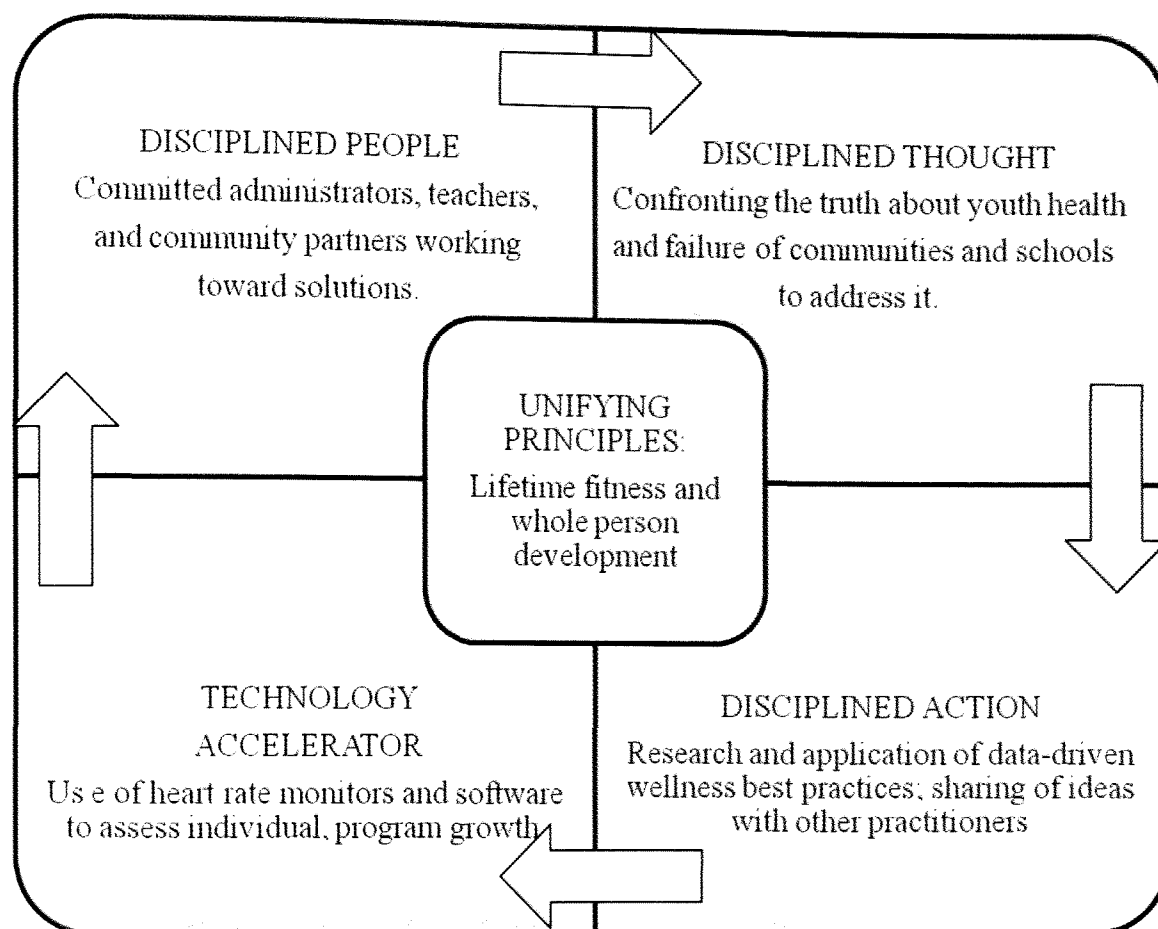
Also impressive is the fact that they were able to generate momentum in their efforts with little initial support and in the face of obstacles such as the marginalization of non-academic core areas in the wake of No Child Left Behind (2001). In doing so, they have become examples of how "aerobic activity can transform not only your body but also your mind" as well as "wonderful templates for reshaping our society" (Ratey & Hagerman, 2008).

Finally, what may be most noteworthy about these sites is that, working without any blueprints, they have been able to persevere when many other such initiatives have failed. Indeed, given the fact that every district in the nation has had the same mandate to move toward a systemic wellness approach and so little has been done in response to move the public health needle, the very existence of such programs as those being studied here is nothing short of remarkable.

#### *Good to Great Schools*

In analyzing the data, particularly those dealing with the evolution of the wellness programs through partnerships and the use of technology, I was struck by how similar their processes were to those of great corporations documented in Collins' (2001) book, *Good to Great*. Figure 1 on the next page is a visual representation of the manifestation of the three sites' efforts within the *Good to Great* framework:

Figure 1: Good to Great Wellness Model (adapted by Randal Peters from Collins, 2001)



Thus, well-meaning individuals within the school systems began to collaborate with community and business partners to hold open, honest discussions about their mutual difficulties in addressing health issues. From this dialogue evolved a core set of unifying principles upon which everyone could agree; in this instance, the importance of educating the whole child for a lifetime of fitness. With these principles as their compass, they began to improve practice through an infusion of resources, the use of research to drive programming, and data collection to document the value of their initiatives. The judicious reliance on technology to facilitate these efforts then acted as a catalyst, or accelerator (Collins, 2001).

The cumulative and cyclical effect of these processes, as in the corporate world, has been to create momentum. However, as with all systems, there are constant sustainability issues that have the potential to derail even the strongest initiatives. Individuals at all of the sites spoke frankly about the threat these obstacles pose to their long term viability.

Therefore, using the collective experiences, successes, and challenges of the three sites, as well as relevant literature, I will propose a systemic wellness model in Chapter 5 that is designed to inform comprehensive program development. Built into this model are components meant to promote sustainability, as well as links to other conceptual models.

## Chapter 5

### CONCLUSIONS AND RECOMMENDATIONS

*Our profession has not been developing as rapidly as it should be in a society where change must now become our watchword. Our problem seems to be that we are ill, but we don't seem to appreciate the serious nature of the illness. Thus, we are unwilling to take drastic action in an effort to affect a cure (Zeigler, 2005).*

#### *Overview*

The evidence presented on the multiple benefits of wellness practices, when juxtaposed with a cursory analysis of declining public health trends, makes for a troubling, not to mention confusing, scenario. If even a moderate assessment of the validity of these claims is assumed, one could make the argument that their current societal status constitutes one of the most egregious misuses of a potential human resource of our time. New and significant findings on the positive impacts of physical activity on brain function and disease prevention, in particular, are emerging with great regularity, and are all the more compelling for their extremely low cost in relation to other treatments and solutions.

Much of the responsibility for this unfortunate reality must be borne by the educational institutions, professional associations, and their members charged with instilling in our young the value of a lifelong approach to living a healthy lifestyle. In the words of Pogo, "We have met the enemy and he is *us*."

In spite of widespread societal changes in the nature of work, leisure activities, and technology over the past two decades, physical education and health curricula have seen little corresponding change in theory and even less in practice. Thus, students

continue to be subjected to a narrow course of study that is fundamentally focused on team sports that only a small fraction will pursue as adults.

As a result of this intransigence and an almost comprehensive lack of data collection, the teaching of a critical life skill has been marginalized almost to extinction in the face of academic achievement challenges. This will have increasingly dire consequences; for example, females, minorities, and the disabled, already underserved in physical education offerings, will have even fewer opportunities to be active.

As Zeigler (2005) warns, the field is at a clear and definite crossroad, with continued failure to react to changing needs qualifying as dereliction of duty. Given the scope of health care problems facing society and the fact that many children's only venue for learning about and practicing healthy lifestyles is school, it would seem only a matter of time before educators and school districts begin to be held legally accountable for their lack of response.

However, other entities bear a part of the burden, as well: communities and families, of course, carry the ultimate responsibility to look for ways to address the important issue of their children's health. Government must also be scrutinized for not directing more funding to preventative health initiatives in spite of the unequivocal recommendations of their own research institutes; the medical field, for its inexplicable failure to acknowledge and aggressively promote the prescriptive benefits of physical activity. Business, too, is at fault for its inability to influence spiraling health care costs to its employees by more fully embracing cost-effective wellness practices, as is our culture, for its excessive devotion to spectator sports and passive leisure activities.

Indeed, the relationship between most Americans and sport has become almost

exclusively that of spectacle and spectator. As Zeigler (2005, p. 254) noted, sport has become an extremely powerful social force and, as with any such force, “can be dangerous if perverted. We seem to be proceeding on the assumption that, if some sport is good, more must be better.” The societal ramifications of this fixation have included:

1. The wholesale substitution of people’s own active lives for the passive observation of others’.
2. The unequal representation of team sports in our K-16 education system, at the expense of fitness-oriented lifetime activities.
3. Trading of the educational advancement of young people, particularly in the inner city, for the relative fool’s gold of a prospective career in professional sports.

In the interest of transparency, it should be noted that, as a former college athlete and longtime coach, I have been both a beneficiary and a purveyor of such practices. However, as I have increasingly become aware of their effects on our young people, I have felt an ever-greater responsibility to question what seems to be a collective national myopia in this regard.

The sites in this study are extraordinary examples of how this general malaise can be overcome by a committed group of people with creativity, effort, and uncommon resolve. In spite of a desire to maintain an objective role, I found myself as inspired and motivated by their efforts as I have by anything I’ve seen in the field of education. During an era when we are constantly inundated by disturbing news of out of shape and unmotivated adolescents, such programs at those at Nolan High School, Carver Middle School, and Garrett Elementary may provide the proverbial light at the end of the tunnel (Ratey & Hagerman, 2008).

### *Recommendations for Change*

*We need courage to let go of the old, to relinquish most of what we have cherished, to abandon our interpretations about what does and doesn't work. Einstein said: "No problem can be solved from the same consciousness that created it. We must learn to see the world anew." (Wheatley, 1994)*

I believe it is possible to take the combined lessons of these innovative wellness initiatives and, within a context of related theoretical traditions, synthesize a conceptual map that will inform future practice while addressing many of the sustainability issues faced by the sites.

The fact that the findings from three schools with such disparate circumstances were so similar lends considerable support to the existence of such a model. Their commonalities speak to the existence of a set of broad guiding principles (Collins, 2001) to inform program development, while variations in how they are employed illustrate the degree of differentiation, both personal and organizational, encouraged by this framework. Also, all have shown the emergent nature and continuous systemic growth and refinement that are characteristic of learning communities (Senge et al., 2000).

In the conceptual framework that follows, an attempt is made to address the challenges that concern all organizations moving "away from mechanistic models and toward more fluid, organic structures," such as how to: 1) "create organizational coherence, where activities correspond to purpose; 2) create structures that move with change and enable rather than constrain, and; 3) balance personal needs for freedom with organizational needs for prediction and accountability" (Wheatley, 1994, p. 13).



Table 6

Recommendations for a Comprehensive Wellness Model

Guiding Principles	Individual Concepts (Personal Wellness Plan)	Program or Systems Concepts (Organizational Wellness Plan)
<p>Holistic Philosophy</p> <p>Related to:</p>	<p>Development of the Whole Person</p> <ul style="list-style-type: none"> <li>• Intellectual and academic</li> <li>• Socio-emotional</li> <li>• Nutrition and health</li> <li>• Life skills (problem solving, teamwork &amp; communication)</li> </ul> <p><i>Multiple Intelligences</i> (Gardner, 1993) <i>Social Intelligence</i> (Goleman, 2006)</p>	<p>Network of Community, School, and Business Partnerships</p> <ul style="list-style-type: none"> <li>• Sharing agreements</li> <li>• Grants and donations</li> <li>• Community service</li> <li>• Cross-curricular planning</li> </ul> <p>Shared vision (Senge, 2000) Disciplined people (Collins, 2001)</p>
<p>Sustainability</p> <p>Related to:</p>	<p>Lifelong Learning and Practice</p> <ul style="list-style-type: none"> <li>• Differentiated (individualized planning and goal setting)</li> <li>• Choice-based (a right)</li> <li>• Self-directed (a responsibility)</li> </ul> <p><i>Choice Theory</i> (Glasser, 1998) Personal mastery (Senge, 2000)</p>	<p>Collaborative, Open-Loop System</p> <ul style="list-style-type: none"> <li>• Feedback mechanisms</li> <li>• Continuity of leadership</li> <li>• Benchmarking</li> <li>• Shared learning</li> </ul> <p>Learning Communities (Senge, 2000), Level 5 Leadership (Collins, 2001)</p>
<p>Culture of Assessment and Accountability</p> <p>Related to:</p>	<p>Self-assessment</p> <ul style="list-style-type: none"> <li>• Effort and improvement-based</li> <li>• Using heart rate monitors and other objective fitness testing</li> </ul> <p>Self awareness (Goleman, 1993)</p>	<p>Program assessment</p> <ul style="list-style-type: none"> <li>• Technology and data-driven</li> <li>• Continuous improvement</li> <li>• Honest appraisal of the facts, both positive and negative</li> </ul> <p>Technology accelerator, disciplined thought (Collins 2001)</p>

### *Overview of Framework*

It should be noted that all of the above conceptual areas are both desirable and interconnected, if the goal is a comprehensive program. It should also be pointed out that none of the sites visited, even in their own estimation, have achieved excellence in all of these components to date. This is no doubt in part due to the fact that all were initiated by individuals working in isolation at the grassroots level, as well as the reality that such widespread change tends to be emergent and incremental by nature. Nevertheless, all of the key individuals with whom I spoke were emphatic in their preference for an up-front and ongoing synergy of administrators, staff, board and community members, in order to more effectively bring about systemic change.

### *Guiding Principles and Concepts*

The wellness matrix is intentionally arranged according to general guiding formulas or principles, as opposed to specific fixed rules, with the assumption of a high degree of individual and institutional autonomy (Wheatley, 1994). This is indicative of a worldview that recognizes solutions as being dependent on a given organization's unique environment, culture, circumstances, resources, and relationships. These guiding principles are organized in parallel individual and programmatic components, to better represent their interdependent nature, and would ideally be developed simultaneously. However, in cases where systemic support is not readily available, an initial emphasis on individual components may be indicated, with a more gradual evolution toward organizational implementation. In either case, the concepts should, to the extent possible, be solidified in the form of personal and organizational plans, with accompanying goals, benchmarks, and assessment measures.

### *Holistic Philosophy*

Since holism is emblematic of the wellness movement, it goes without saying that it deserves a place as one of the major principles to guide efforts in this model, which honors the complexity and many facets of the individual. Unfortunately, schools have historically held a “one-size-fits-all” mentality in this area, which has the result of alienating a high percentage of learners with diverse fitness needs and interests at precisely the time in which lifelong habits are being formed. If resources or other circumstances inhibit schools from addressing these needs, they should be willing to be creative and open-minded in their efforts to look beyond the school walls for potential assistance or solutions.

At the program level, this is manifested in recognition of the necessity for a common vision and the sharing of resources, as manifested by Collins’ (2001) finding that great companies go to extraordinary lengths to get the right people on board in order to chart the organization’s course. This is critical; the teacher leaders and administrators at all three sites made clear the transformative impact that partnering with community and business entities had on their programs.

### *Sustainability*

In spite of the extensive foundational and developmental work done at each of the sites, all expressed some trepidation about the long term viability of the programs. I believe that the likelihood of permanently sustaining a program can be enhanced by generating a number of self-renewing properties (Wheatley, 1994) that, admittedly, are not traditional strengths of the educational system.

Specifically, while the wellness model above calls for collaborative, open loop

systems that rely on frequent feedback, benchmarking, and continuity of leadership and mission, the reality is that many school systems are notorious for being insular in nature, for frequent changes in direction resulting from changes in leadership, and for a tendency to reinvent the wheel. While deeply entrenched, these habits can be broken if a community is willing to make a long term commitment to wellness principles by ensuring that leaders are either groomed or selected for their willingness to support a wellness model. When coupled with meaningful feedback loops and opportunities for staff to benchmark and observe other innovative programs, I believe that a more enduring wellness ethos can be achieved throughout the school and community.

With regard to individual wellness plans, it seems intuitive that, to impact the whole individual, they must be expanded from a purely fitness emphasis to include goals and assessments for nutrition and health, as well as academics, socio-emotional wellness, and career development. This will by definition require greater collaboration between physical educators, counselors, health personnel, content area teachers, and resources in the community. This, too, can be challenging, particularly at the secondary level, due to its departmentalized structure, but the schools I visited have demonstrated that any such efforts can offer an exponential payback. In addition to serving in the best interests of the students, I believe there is a cumulative and revitalizing effect on adults in the school and community. I had the distinct impression, while speaking with individuals at all three sites that they were energized and motivated by being a part of a meaningful organizational effort, at the center of a "seamless web of mutual responsibility and collaboration," (Wheatley, 1994, p. 140) rather than feeling isolated and compartmentalized, as many had been in previous roles.

### *Culture of Assessment and Accountability*

*If a [profession] meets its challenges, it survives. Its life is measured by the number of challenges that are met successfully. Trouble comes when an incorrect response is made to a specific challenge or stimulus. (Zeigler, 2005, p. xxxiii)*

Finally, during an era in which schools have been called into accountability like never before, the unconscionable failure of the physical education profession to produce any meaningful body of data justifying its existence may be the single greatest reason for its decline.

Therefore, the example put forth by these innovative sites may yet be their most significant contribution to the field, by generating objective data that show continuous program improvement. Meanwhile, the use of personal technology helps students become partners in their own fitness and health, by placing a premium on effort and improvement toward personal goals, versus arbitrary, fixed expectations, and, in doing so, encouraging intrinsic motivation as opposed to a reliance on external rewards.

### *Summary*

In a final look at the study's central question about programmatic responses to the decline in youth health, it is clear from the evidence gathered here that it can no longer be business as usual; an emphasis on games must be exchanged for lifetime fitness activities that are differentiated and keep young people actively engaged. Such offerings are more likely to result in a state of flow, characterized by Csikzentmihalyi (1990) as having clear goals, immediate feedback, personal control, and the intrinsic rewards that are more likely to produce lifetime involvement.

All of the above suggestions, while sound and well-intentioned, will require a

great deal, perhaps an unprecedented amount, of commitment, collaboration, and logistical consideration by students, parents, school personnel, and community and business leaders. It will not occur without significant outputs of time, talent, and other resources. However, in the end, it may not be overstating the case to say that, based on current trends and future predictions about public health, what is at stake may well be the sustainability of our public health care system and, indeed, our very quality of life as a nation.

### *Implications for Future Study*

After completion of this project, I now believe even more strongly that the above findings substantiate the need for further study. Further data, both quantitative and qualitative, linking physical activity and wellness practices with brain function and academic achievement are critical. Mounting evidence in this area should result in the increasing recognition that school-based physical activity has the potential to greatly improve, rather than detract from, school improvement and academic achievement efforts.

A second potential area for future inquiry is that of the role modeling aspect of wellness by teachers and administrators. I asked one of the lead teachers at Nolan High School what might be done to incent this, since young people look to staff as role models and, if they're not taking care of themselves, it can send a powerful negative message. He responded: "I'm presently working with a university that dropped its physical education major 15 years ago and they're now trying to bring it back. I told them that in order for me to be involved, there were a few things that were nonnegotiable: One of them is that the overarching theme for PE majors needs to be 'teach it, live it.' One of the

expectations is that they would all be expected to take part in fitness activities on a regular basis in order to remain a part of the major. It's really a selling point for potential future employment; if they can put on their resume that, in addition to being highly qualified, they have made an absolute commitment to their personal fitness so that when hired, they are far less likely to be a major burden on the organization's health care."

The importance of further study of role modeling in this regard is also in keeping with the tenets of social learning theory. According to Bandura (1977), since young people learn much through observing others' behaviors, attitudes, and the outcomes of those behaviors, teachers have a unique opportunity to model choices which are likely to serve on later occasions as a positive guide for action.

A final area with significant potential for inquiry is that of longitudinal tracking of student wellness behaviors into adulthood. As one teacher pointed out, the question has to be: "When kids graduate, what do they know and will they be able to demonstrate that they are physically educated? More importantly, how will they live their lives after that?" These questions about lifelong learning are not easily answered, in wellness or any other discipline, but they are central to our mission as educators. I believe we must begin to rigorously examine them if we desire to understand the true measure, and the enduring relevance, of our profession.

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## Appendix A

### Participant Consent Form: Case Studies of Schools Exemplifying Wellness Models

Dear Participants,

The following information is provided for you to decide whether you wish to participate in this study. You should be aware that you are free to decide not to participate or to withdraw at any time without affecting your relationship with this department, the researcher or Drake University.

The purpose of this multiple site case study will be to describe the programs, practices, and impact of schools that exemplify comprehensive wellness and lifetime fitness models. At this stage in the research, wellness will generally be defined as “a systemic commitment to providing school environments that promote and protect children's health, well-being, and ability to learn by supporting effective health education, nutrition, and opportunities for physical activity.”

Your participation in this study will involve being interviewed with regard to the planning, development, and current status of your school's wellness programming. The single interview will generally last from 45-60 minutes. Please do not hesitate to ask any questions about the study either before or during the time that you are participating. I will be happy to share my findings with you after the research is completed.

There is minimal risk associated with this study. To further minimize any potential risk with regard to confidentiality, pseudonyms may be used to identify your name and the name of your school in study documents and findings. The expected benefits associated with your participation are the opportunity to share your stories and experiences in an exemplary wellness site to advance best practices, inform and empower school leadership decisions, and positively impact enlightened public policy.

Please sign your consent with full knowledge of the nature and purpose of the procedures. A copy of this consent form will be given to you to keep.

_____	_____
Signature of participant	Date

_____	_____
Signature of parent (of participants under age 18)	Date

Randal Peters, Drake University Doctoral Student and Project Researcher  
 (515) 201-2994  
[rep007@drake.edu](mailto:rep007@drake.edu)

Should you have any questions regarding your rights as a participant in this study, feel free to contact the Drake University Institutional Review Board at (515) 271-3472 or [irb@drake.edu](mailto:irb@drake.edu)

## Appendix B

## Sample Physical Education Course Offerings

(Retrieved June, 2007, from Nolan\* High School Website)

## Current Activity Offerings

Activities from this list are offered on a selected basis as determined by the Department. All students select activities from the various groups to insure that they receive a broad-based exposure to the various types of activities. Students are asked to take 6 Fitness classes, 4 Team Sports, 3 Individual Sports, 2 Aquatics, 2 Gymnastics, 2 Dance and CPR.

<b>Individual Sports</b> Archery Badminton Basic Gymnastics Basic Wrestling Cross Country Skiing Golf Gymnastics & Tumbling Racquetball Rollerblading Tennis	<b>Team Sports</b> Basketball Flag Football Floor Hockey Indoor Soccer Passball Soccer Softball Team Handball Volleyball 4-sport Indoor/Outdoor	<b>Physical Fitness Activities</b> Aerobics Circuit Training Cross Training Frosh Fitness Orientation Jogging & Conditioning Kick Boxing Self Defense Step Aerobics Weight Training Strength and conditioning
<b>Rhythmic Activities</b> Advanced Dance/Social & Square Basic Dance Line Dance Social Dance Square Dance Swing Dance Tap Dance	<b>Aquatics</b> Aquanastics Basic Swimming Life Guard Certification Swim Fitness Water Games Kayaking	<b>Others</b> Adapted P.E. C.P.R. Certification First Aid Certification High Ropes Course Rock Climbing Team Building Personal Wellness Leadership Training



## Appendix C

Original Observation Guide/Research Questions for Wellness Case Studies  
(Based on Bogdan & Biklen models on p. 181-2 and 249-259, and supplemented  
by researcher's experience and issues commonly raised in the literature)

Grand tour question: What practices are being implemented in exemplary school settings in order to meet the wellness needs of students and staff?

Alternate: *What has been the programmatic response to the decline in youth fitness and health practices (wellness) at the selected sites?*

Sub-questions (exploratory/explanatory questions for participants):

1. Describe the environment (physical, economic, social, cultural, semantic, and learning, etc.) of the schools and communities.
2. What caused these schools with exemplary programs to make wellness a priority? (What initiated their response or action?)
3. Who was involved or instrumental in this response?
4. What changes had to be implemented in order to promote well lifestyles?
5. What practices are currently in place that contribute to these sites being more fit/well than others? (How might the wellness programs be described in the wake of their decision to address this issue?)
6. What evidence/assessment/documentation exists supporting the correlation between wellness practices and outcomes (e.g enhanced student/staff fitness, obesity rates; positive trends in student achievement, behavior, attendance, etc.), as well as their likelihood of sustainability?
7. What themes emerged in the development of the program?

Sub-questions (analytic/interpretive/emancipatory questions for researcher):

1. What theoretical/wellness constructs help in understanding campus responses?
2. What themes emerged from gathering information about the cases (analysis of case materials)? How would I interpret these themes within larger social/health theories (lessons learned from the cases surrounded by the literature)?
3. What do schools with effective wellness/fitness programs have in common?
4. What constructs were unique to each case?
5. Given that so much compelling evidence exists in their favor, what are the obstacles to such wellness models being more systematically/universally implemented?

Descriptive/procedural questions and checklist items (to be addressed when possible through direct observation, interviews, and document review):

### School Environment

Physical environment:

- Description and condition of school building, grounds, and neighborhood
- Locations of wellness facilities/equipment in (and outside of) school

- Physical description of wellness class and activity use space
- Are wellness facilities available and accessible to students, staff, and community members outside of regular school hours?
- Adaptive wellness class space and equipment for students with disabilities?

Economic, social, cultural, and historical environment:

- What is the reputation of the school and its wellness program in the community?
- What are the demographics of the school and the community?

Semantic environment:

- How do students and staff describe the wellness program?
- Can students and teachers define and intelligently discuss wellness practices and terminology used in the school?

Human environment

Teachers and other staff:

- Professional background (certifications, experience, etc.)?
- General awareness, perspectives, attitude, and motivation with regard to wellness program, principles, activities, and benefits?
- To what extent is staff involved in the planning, development, and assessment of wellness activities?
- What are their teaching styles? How are they viewed by staff and students?
- What are teacher movement patterns/interactions with students during wellness activities?
- What role do teachers play during group activities? What individualized learning occurs?
- Are teachers encouraged to discuss and establish own wellness goals/practices?

Administration:

- Part in and relationship to the program (initiation, development, support etc.)
- Definition of the program, including if and why it is a success
- Description of things done in support of the program (materials, resources, PR, development of in-service opportunities, etc.)
- What are administrators' styles? How are they viewed by staff and students?
- General awareness, perspectives, attitude, and motivation with regard to wellness program, principles, activities, and benefits?
- Encouraged to discuss and establish own wellness goals and practices?

Students:

- General awareness, perspectives, attitude, and motivation toward wellness programs, principles, activities, and benefits?
- To what extent are students involved in the planning, development, and assessment of wellness activities?

- How well do students work independently on their personal wellness (is motivation generally intrinsic or extrinsic)?
- Are students encouraged to discuss/establish own wellness goals and practices?

#### Parents:

- Nature and amount of teacher contact with parents (regarding wellness)
- To what extent are parents consulted in the planning, development, and assessment of wellness programs?
- General awareness, perspectives, attitude, and support toward wellness programs, principles, activities, and benefits?
- Encouraged to discuss and establish own wellness goals and practices?

#### Learning environment (EI: self control, management and social relationships, discipline):

- What limitations are placed on students' mobility during wellness activities?
- What is the nature of control, punishment, and discipline during wellness activities?
- Do students/staff report feeling safe during wellness activities/in school?

#### Communication and relationships between participants:

- What is the nature of communication between students and staff?
- What is the nature of student interactions with each other and wellness activities?
- Are students generally treated with dignity and respect? Are teachers and staff?

### Wellness Environment

#### Programming and curriculum:

##### Process

- History of program
- Organization, process and participation in programs (large/small group, individualized)
- Dress requirements for physical fitness activities
- In-service and participation by staff
- Presence/reinforcement throughout school and content areas
- How are decisions made on who goes into what classes?
- Is programming available, accessible, and attractive to all students and staff, regardless of age, gender, race, socioeconomic background, and athletic ability?
- How often and when do students and staff have opportunities for physical activity (is PE offered to every child, every day\*?)
- What is the range of physical activities available? Is access limited in any way?
- Are programs and activities flexible, individualized, and choice-based (and therefore more likely to promote continued positive attitudes and participation)?
- How is wellness information disseminated throughout the school?
- Are visitors allowed to observe wellness activities? Is this a common occurrence?
- What is the balance of activities between team sports and personal health and wellness/physical activities\*?
- Do wellness activities support cooperation or competition, or some of both?

- How are classes grouped (heterogeneously, homogeneously, by age, etc.)?
- To what degree is programming holistic (connected to other content areas, nutrition program, health education services and programs, counseling)?
- Is technology incorporated on a regular basis\*? If so, how?
- Are wellness education and activities extended beyond the school walls to form community and business partnerships?

#### Nutrition:

- What is the dining atmosphere? How much time is given for students/staff to eat?
- Description of foods served (are nutritious, affordable choices available?)
- Specifically, are there options including fruits, vegetables, lean meats, whole grains, low/non-fat dairy, water, 100% fruit juices, and healthy portion sizes?
- What types of foods/drinks (if any) are available in vending machines/snack bars?
- Nutrition education: are principles and benefits of good nutrition taught and reinforced?
- Do staff members eat with students?
- Are meal programs staffed by qualified nutrition professionals?

#### Health education:

- Scope/availability in school
- Are issues related to alcohol, tobacco, and other drugs taught and reinforced?
- Are the relationships addressed between physical activity, nutrition, and AODA issues and how the body performs?

#### Individual and program assessment:

- What is the general wellness level of students and staff? How is this measured?
- How is improvement of wellness levels monitored and assessed (are students assessed on personal progress toward fitness and physical activity goals)?
- How (and by whom) are wellness programs and improvement monitored and assessed?
- How are students graded for PE/health & wellness (skills/innate abilities vs. effort/progress toward goals)?

## Appendix D

## Excerpts from Interviews\*

*As a community member and parent, what's your perspective on the school wellness effort?*

I have had several opportunities in the last few years to take different jobs, higher paying jobs in larger healthcare systems. They would all be upward career moves, some for as much as double the salary. Frankly, we can't move because of the school system our kids are in here. Before, we were hesitant to leave our previous city because the parochial schools our kids were in were so important to us; it's funny now because changing schools was initially our biggest concern in making the move, now the schools have become the biggest asset for our family and the biggest reason for us to stay. I love my job and there's still a challenge here, but my kids absolutely refuse to go anywhere else and I think it's because they're getting the wellness focus, things they've never gotten in other places. I think it rounds of them out as individuals so much better. There are so many choices here for them. Their knowledge base about caring for their bodies, eating right, staying hydrated, exercising and all of those things is so far advanced for their age. There's a lot of discussion around our dinner table about those things; it's interesting, even though I have a healthcare background, sometimes they manage up to their parents, reminding us about healthy behaviors and things like that.

*It's rare, even among the schools I've visited; that it's taken root to the extent it has here.*

A lot of my career has been focused on managed care, so I've really embraced the idea of people taking accountability for their own health issues. People here are doing that and they're constantly growing in their understanding.

*What is your perspective on the community's knowledge or awareness about what goes on here?*

I think it's been a wonderful thing for the community; people are more aware of their own fitness levels and knowledgeable about their exercise routines. They can see that the school takes a significant interest, not just in physical fitness, but overall health as well.

*Since becoming a part of this program, what are the biggest positives that you've seen?*

I guess one of the biggest positives would have to be the ability to teach and go to school at the same time, getting a degree while working under an excellent qualified person. It's one of the best ways to approach things--not just teaching--when you talk about an apprenticeship while going to college and attending classes, actually practicing what you're going to be doing in a lifetime setting while being closely supervised, it's always beneficial. You can't get much better than that; it's kind of a baptism under fire where you're learning and you are in the trenches every day--you're not reading a book about how to teach, you are teaching.

*It seems like, if you're willing to take a program like this on, it can become a real calling card for your community.*

My granddaughter started coming up in the summer to take part in some of the community and school wellness activities that were offered here. Her friends started hearing about it and now she's bringing six of them up here along with her; they love the camaraderie, instruction, the whole culture. They go into the fitness center and say, "Oh my gosh, I wish we had this at our school." You know, we're not next to any malls, we don't have any big stores or attractions, but, on the whole, I'll take the trade-offs. I think it's a pretty special place.

*That addresses some of the questions I have about carryover and alignment, K-12. The secondary level can be more difficult sometimes because things tend to be more departmentalized.*

And you're talking about the inspiration and motivational level of the kids, which can be different there. I was telling you a story about Brian A. earlier--someone who wasn't motivated and who was out of shape in school. However, you don't know the indelible imprint that you may be putting on them for the future. Brian is about 30 years old now and has totally transformed himself physically; if you'd seen him when he graduated, you'd say "he's not going to take care of himself or value what physical education has taught him. He doesn't care, he's a lost cause." There was something here in the community that triggered a change. If we don't advocate for those kinds of kids, who is going to? Not all kids "get it," or value what they're getting here immediately, but it might eventually help someone else inspire them down the road: it might be seeing a parent working out at the YMCA after never having worked out before, a colleague at work; who knows? We have a picture in a PowerPoint that I do of one of our former students working out in the fitness center, and next to him is one of our middle-aged coaches working out, and next to him is an 80-year-old lady working out. The idea behind that slide is that we don't know who's inspiring whom, and it really doesn't matter... The key is, can we make a difference? I would amend that saying, "it takes a village to raise a child," to say, "it takes a village to raise a *healthy* child."

*What are the parents' general perspectives, attitude, and support toward the wellness programs?*

At the beginning, we actually had parents calling us, saying, what are you teaching our kids this crap for? They're bothering me at home and asking me to buy foods we've never had before. See, the kids were teaching the adults; they were developing new habits, hopefully lifelong ones. They even hound their folks about getting on exercise programs; you now see parents making big lifestyle changes. We have a lot of success stories of adults who have really transformed their lives because of what the kids are doing.

*Can you talk a little more about your program in general; I noticed the projection of vocabulary and commands onto the wall, it looks like you're helping to build reading skills along with gross and fine motor movement and collaboration.*

Our vision is to "Energize and educate for healthy, active lifestyles." I believe that the root of everything you do in physical education, business, whatever, is to create a climate for success. To do that you have to build relationships first; I

believe relationships are the key to education; they are the key to life. Knowledge and application without relationships is hard. On the first day of class, we play the name game. Why? Because those kids need to know that you care enough about them to know their names, and that they're valued. Catching the kids being good is important. Teaching protocols for safety and for self-and-classroom management is important. Everything we do has music cues; it starts off with baroque or classical music as they're putting their heart rate monitors on, then it builds up in speed as they begin working out. It also has a voiceover so that I can go around and help out individually and they're not dependent on me to always be leading the entire group. We want there to be quick transitions because it's part of our philosophy to help kids remain active 70-80% of the time in class; we have a generation of interactive kids and I believe it's paramount to have a high level of activity in physical education. We're not teaching the traditional model. I am not going to be a breeding ground for sports programs; we were the state all sports champions three years ago and I don't take any credit for that. Now, do we work on skill development? Absolutely, but the biggest thing I want is for them to be self-sufficient, self-directed and know they have permission to adjust their own intensity and workout. Years ago, if one kid was jogging and another was walking a teacher would have yelled at the walker to get going; many would have said something demeaning to the child. That's how they treated the non-athletic, the non-skilled, the obese kid; that can't be the case--kids need a safe environment where they know they can be successful. What they're being assessed on is their investment into their own health. There's a bigger purpose for what we're doing and that goal is to help them be thinking about healthy decisions; hopefully understanding that being active in physical education is not the end-all. It's just the beginning; it's a lifestyle approach. We have to catch them at a young age, when they're malleable, when it's easier to prevent a bad habit than to break one.

*If you were going out on your own to start a program in a school that was at ground zero as far as its wellness practices, using a traditional model, and so on, based on your experiences here how would you approach that?*

That's a good question. There are so many aspects of this program that I feel would need to be put into place if you were to replicate something like this; I think this is definitely a model system. I think its comprehensive nature would be the hardest thing to duplicate: you need a superintendent or a leader who is invested and involved, who makes wellness one of his priorities and takes a lot of pride in his own health. If he didn't see the importance in this, where would we be? Then you've got a teacher like Rob, who has been an absolute inspiration and a model physical education teacher; he brings a lot of the best teaching practice into it. There is also the close partnership with the university, who can offer a masters degree here and allow students to get the coursework they need. Then there is the YMCA connection and the involvement of the community. It's possible to have all that; I mean, it's happening here. I think if I were trying to start something like this on my own I would have to first seek out those people with the desire and the means to do something of this quality, who'd be willing to invest their heart and soul into the wellness of the community. You can't do

something like this alone, and I know there are a lot of teachers out there who struggle because they want something like this, but they've got a principal or superintendent who doesn't believe in it or isn't buying into it. Ultimately, it comes down to having a committed group of key people who see a need for it. It's because you can see the impact on the kids and the community here that we get so many visitors coming in to see what's going on: teachers, professors and administrators who come in to see the kids in class, using the equipment and the heart rate monitors.

*Who has been instrumental in the development of programming?*

[Program coordinator] has been a driving force in this initiative. He is a commanding presence--a force of nature if you will--to the point where I sometimes worry whether we will be able to sustain the program at this level after he leaves. A lot of this program is due to his strength of will, and ability to win people over with logic, research, and common sense.

*I'm sure you get people coming to observe who don't have that structure. Do you have any advice for those places where physical activity is not yet required all the time?*

The best thing that's happened to physical education is the research and data we have now that exercise can impact brain function and academic performance. What greater thing to hang our hat on than that? You have to sell your community, your administration, your school board on that fact. Provide the data that show the great things going on as evidenced by the heart rate monitors.

*That ability to show a research base is so important right now.*

That's right, there's a lot of pressure on these administrators to meet the standards and improve test scores, but we have to demonstrate that physical activity is going to help them do that. We have to find a way to get our students active and aerobic every single day. Even here, our academic teachers are changing their schedule around; they're fighting to get their students physical education early in the day so they can derive the benefits that have been demonstrated by being physically active prior to other content areas. We've worked to gain respect in partnership with our academic teachers, too.

\*Questions about this study or requests for complete interview transcripts may be requested from the author, Randal E. Peters, at: [prairieview@prairieinnet.net](mailto:prairieview@prairieinnet.net).



## Appendix E Wellness-related Websites

AAHPERD (Shape of the Nation): <http://www.aahperd.org/naspe/ShapeOfTheNation>

American Cancer Society: <http://www.cancer.org>

American College of Sports Medicine: <http://www.acsm.org>

American Dietetic Organization: <http://www.eatright.org>

American Heart Association: <http://www.americanheart.org>

American Medical Association: <http://www.ama-assn.org/>

American Running Association: <http://www.americanrunning.org>

Centers for Disease Control and Prevention: <http://www.cdc.gov/index.htm>

Child Nutrition and WIC Reauthorization Act (2004):  
<http://www.schoolwellnesspolicies.org>

CNN.com (Fit Nation): <http://www.cnn.com/SPECIALS/2007/fit.nation>

Healthy People 2010: <http://www.healthypeople.gov/default.htm>

Kaiser Family Foundation: <http://www.kff.org>

National Association for Health & Fitness: <http://www.physicalfitness.org/index.html>

National Center for Health Statistics: <http://www.cdc.gov/nchs/>

National Health Information Center: <http://www.health.gov/NHIC/>

National Wellness Institute: [www.nationalwellness.org](http://www.nationalwellness.org) ([www.uwsp.edu](http://www.uwsp.edu))

Office of Disease Prevention and Health Promotion: <http://odphp.osophs.dhhs.gov/>

PE4Life: [www.pe4life.org](http://www.pe4life.org)

President's Council on Physical Fitness and Sports: <http://www.fitness.gov>

Robert Wood Johnson Foundation: <http://www.rwjf.org>

Shape Up America!: <http://www.shapeup.org>

The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity:  
<http://www.cdc.gov/nccdphp/dnpa/pdf/CalltoAction.pdf>

U.S. Department of Health and Human Services: <http://www.hhs.gov/>  
[www.healthfinder.gov](http://www.healthfinder.gov)

Wellness Councils of America: [www.welcoa.org](http://www.welcoa.org)